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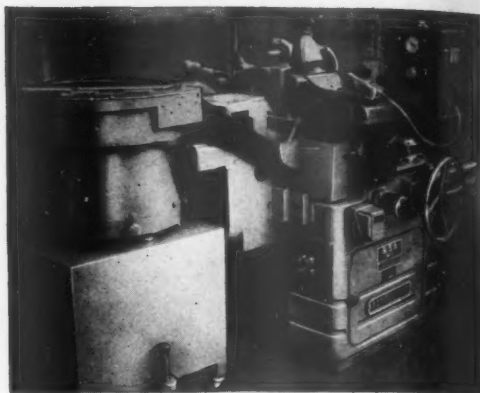
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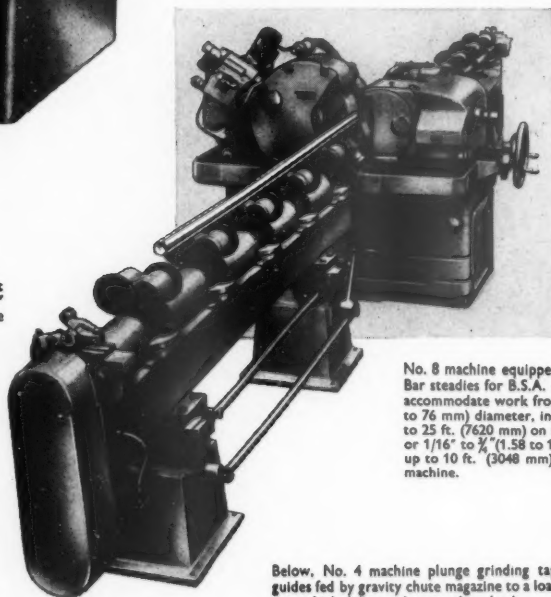
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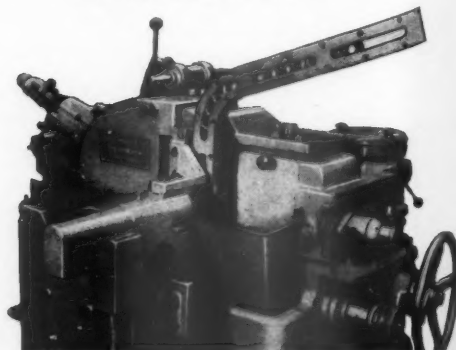


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BIRMINGHAM: 90, Hagley Road, Edgbaston Edgbaston 2466

LEEDS: 70, Albion Street Leeds 27174

BRISTOL: 8, Upper Berkeley Place, Clifton Bristol 21930

Annually £5 by post Single copies, Two shillings.

Registered at the G.P.O. as a newspaper. Entered as second-class matter in U.S.A.

Editor: B. W. C. Cooke, Assoc. Inst. T.

Vol. 109]

FRIDAY, OCTOBER 10, 1958

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Transport Questions at Blackpool

"LEAVE the railways alone to get on with the job" is a policy which commends itself to a good many Conservatives. British Railways and London Transport certainly need freedom from political interference. As we went to press, it appeared unlikely that transport policy would be discussed at any great length at the Conservative Party annual conference which began in Blackpool last Wednesday. To take credit for non-interference with British Transport Commission affairs is to make a virtue of necessity. The Party, after its return to power in 1951, in the Transport Act of 1953 caused a good deal of disturbance to, and consequent loss of efficiency on, the railways in the form of compulsory changes in organisation. It also went far in de-nationalising the State road haulage undertaking which was just beginning to provide excellent service with good financial results. It is hard to see what fundamental issue regarding the railways could be discussed at Blackpool, apart from the need for them to move nearer to achieving financial equilibrium. The Party takes credit

for the modernisation plan. Some credit is certainly due, though by 1955 the necessity for allocating funds for improving the plant would have been apparent to any Government. In Mr. Harold Watkinson the present administration has a strong Minister of Transport & Civil Aviation who appreciates the necessity for an efficient railway system and has shown himself ready to support the efforts to achieve it through modernisation, provided that the programme is pressed forward with due vigour and economy. A tendency to intervene unduly in matters such as fares may now be hoped to be a thing of the past. On the other hand the Minister is zealous in carrying out a large-scale road-building programme, the result of which may be expected to be even more arterial roads—and fiercer road competition for the railways. Any declaration at Blackpool as to industrial disputes is unlikely to be drastic or provocative. The existing lack of a sharply defined policy in regard to labour matters enabled the Government to put up some resistance to the London busmen's wage demands earlier this year. The ability to resist further claims may well be needed during the coming winter in dealing with the demands of railwaymen.

Nationalisation Continues in Colombia

THE national Government of Colombia is buying the 214-mile, 3-ft. gauge Antioquia Railway from the Department (Province) of that name. This virtually completes nationalisation in Colombia. Only a small mileage will remain in private ownership, and the Government is understood to intend to purchase this also in due course. The National Railways at present consist of isolated sections totalling 1,439 miles of 3-ft. and 73 miles of metre-gauge line. Construction has begun of a line, the Atlantic Railway, to link the Central Division, which includes the former Dorada Railway, with the north coast. Standardisation is planned of all lines on the 3 ft. gauge, which seems the only course in view of the existing mileage of that gauge, and of the difficulty of conversion in mountainous terrain to the more convenient metre gauge. Diesel traction is being introduced as fast as financial considerations allow of purchase of locomotives and railcars. Despite their gauge problems, the railways have an important part to play in a country still largely undeveloped.

Transport Users Consultative Committees

WITH no other public utility in Britain is the customer afforded such facilities for making complaints, objections, and constructive suggestions as with nationalised transport, and more particularly with the railways. Rates and fares are dealt with by the Transport Tribunal, which is a judicial body. The quality of, and the charges for, transport are the concern of the several transport users' consultative committees set up under the Transport Act of 1947. They are not courts of arbitration, but their recommendations carry great weight. Most people probably associate them with objections to proposed closures of branch lines or withdrawal of train services. In fact their work is much more comprehensive and indeed constructive. Elsewhere in this issue is published a short notice of a handbook on the committees published by the Central Transport Consultative Committee. This lucid pamphlet covers much ground in a very small space. It should be read by all who use railways, whether as large-scale consignors or as individual passengers; officers of a good many railways overseas will find it informative. The amount of useful work already done by these bodies in making suggestions for improving services is striking. The pamphlet rightly exhorts would-be complainants to approach, in the first instance, the appropriate quarter, which it indicates, in the nationalised transport undertaking.

Developing the Mozambique Railways

THE authority reported to have been given by the Government of Mozambique to the Mozambique Railways to order rolling stock to the value of \$U.S.A.1,300,000, seems, with what already has been

ordered, to foreshadow further purchase of rolling stock and other equipment for railways in the Province. We commented in our July 25 issue on the plans of the mother country for developing the Overseas Provinces of Portugal, as the Portuguese colonial empire is called. These projects include the Mozambique Railways, which consist of five separate systems, nearly all of the 3-ft. 6-in. gauge, based on the five principal ports. The main plans are for developing the port of Beira, which has Southern Rhodesia and Nyasaland as its hinterlands linked with it by rail; and extension of the railway from the port of Mozambique to Lake Nyasa. Further traffic also may be expected in due course to and from Rhodesia via the port of Lourenço Marques. The use of only part of the \$1.3 million for 40 40-ton mineral wagons seems to imply low costs; but it may be that the stock is to be bought from Poland, whence the administration has already obtained a quantity of wagons. It is not clear what measures are being taken to obtain additional motive power. The policy of the Mozambique Railways hitherto has been to adhere to steam power, though diesel railcars have been introduced on the Beira System.

Overseas Railway Traffics

PARAGUAY CENTRAL RAILWAY receipts, since the beginning of the financial year, have continued to decline in comparison with the 1957 equivalents, although returns during mid-September showed a considerable improvement, and give rise to some optimism. Aggregate receipts on September 19, amounted to G21,972,265 compared with G23,334,557 in the corresponding period of 1957. Railway operating revenues of the International Railways of Central America for August amounted to \$946,651, a decrease of \$254,125 compared with August 1957. Net income for the month showed a loss of \$169,155 (\$61,248 loss). Aggregate net revenue from railway operations for the period January 1 to August 31, was \$248,346 (\$1,860,225). Costa Rica Railway receipts for August were colones 1,825,316 compared with colones 1,963,003 in August 1957, a decrease of colones 137,687. Aggregate receipts from July 1 amounted to colones 3,798,864 (colones 3,784,652). Net railway earnings of the West of India Portuguese Guaranteed Railway Co. Ltd. for the 10-day period ending September 20, 1958, were Rs. 37,403 compared with Rs. 75,846 in the corresponding period of 1957, a decrease of Rs. 72,646.

Explaining Rate Changes in East Africa

MOST of the lower rates on East African Railways & Harbours are to be increased by 5 per cent on January 1, 1959, when also diesel and gas oil will be more highly rated, whilst the maximum goods rate will be reduced from 60 to 40 cents per ton per mile. These changes are clearly explained in a brochure now being distributed in the three territories served by E.A.R. & H. The railway, it is pointed out, makes no profits in that surplus revenue is ploughed back to facilitate cheaper rates and better services. The differential tariff involves vulnerability to road competition, as road operators can pick the profitably-rated traffic without which the railway cannot maintain cheap rates to help agriculture and industry. The latest changes are necessary mainly to meet road competition for higher-rated traffic, but the brochure stresses that the average rate received remains unaltered. The community as a whole pays no more than before for its railway transport.

Improving Services

CONSIDERABLE benefits to all railway users in East Africa should result from the reduced charges on many manufactured commodities, despite the necessity to increase those on lower-valued industrial and agricultural products. This argument, clearly expressed, should convince many railway users. Some of them will need a great deal of persuading to accept the statement by the management of E.A.R. & H. that stricter regulation is needed of road haulage, though it is true, and has the

support of many responsible road hauliers in East Africa. Attempts at such regulation are likely to encounter some opposition. Meanwhile the railway has been improving its competitive position by *inter alia* building new branch and cut-off lines, as reported recently in our pages. The former give better rail access to districts hitherto untapped, and cut-offs are useful, especially where speeds on a metre-gauge line cannot be high. These measures are additional to what has been, and is being, done to improve services through additional motive power and rolling stock and more efficient signalling.

Lightweight Stock for the Pennsylvania Railroad

SO much has been heard of the difficulties experienced by railways in the U.S.A. in operating suburban services that it is refreshing to find the Pennsylvania Railroad putting new multiple-unit stainless-steel air-conditioned rolling stock on its Philadelphia routes. At the moment, there are only six of these coaches, built by the Budd Company, but they embody the results of experience gained with the prototype lightweight—almost ultra-lightweight—Pioneer III coach, which has now run some 120,000 miles. This stock was described in our issue of September 26. The Pennsylvania has an option on another 44 coaches of this type, but is wisely waiting to see how the first six perform in regular service. As Mr. James M. Symes, President of the Pennsylvania Railroad, pointed out recently, the railway simply cannot afford to replace all its present coaches with the new, more economical stock. Some \$4,000,000, he stated, had been lost in 1957 on suburban services in the Philadelphia area, and the cost of replacing the present stock would be \$36,000,000. Although everything possible has been done to increase off-peak travel, the building of new highways into the city and the construction of new shopping centres outside it have almost nullified the railway's efforts; and most of the suburban stock can be used for only 20 hr. a week, at morning and evening peaks.

Diesels for South Africa

IT is disappointing that orders from South African Railways for diesel locomotives should not have been placed with British builders. With the announcement, reported in our Contracts and Tenders columns this week, that the S.A.R. has placed a £10,000,000 contract with the International General Electric Company, U.S.A., for 115 diesel-electric units for operation in South-West Africa, it now seems that I.G.E.C. has established a firm footing in South Africa, a market in which steam and electric locomotives from Britain have proved acceptable in both price and performance for a good many years. The tender for the South-West Africa diesels aroused world-wide interest when it was issued last December, and its vague terms attracted offers of both diesel-electric and diesel-hydraulic locomotives; there were 29 different tenderers from all parts of the world, and between them they submitted 219 offers. The I.G.E.C. was probably at an advantage in being able to offer a ready-made article with a guaranteed record of service, and despite the disadvantage of hard currency the price of £10,000,000 is understood to have been competitive.

Essential Amenities of Passenger Travel

ONE result of the increased autonomy of the Regions of British Railways is a fuller awareness of what the railway passenger wants. In the early days of nationalisation, which had involved transfer of control of catering and hotels from the individual railway companies to the Hotels Executive of the British Transport Commission, a cautious policy was followed in providing refreshment cars in trains, many of which did not, and still cannot, show a profit. With the railway hotels drastic action was taken. Those at Holyhead and Fishguard, which had long been amenities of the journeys by well-appointed trains and packet steamers between Euston and Paddington and Ireland, were closed because they were losing money. Such losses were accepted by

the former railway companies as necessary expenditure in providing a passenger service. Today the Regions are in close touch with the travelling public, and with British Transport Hotels & Catering Services. An enlightened policy is being implemented in providing catering facilities in a great many trains. Business is reported to be well maintained. No doubt there are lapses in service. One regrettable feature in some trains is the locked refreshment car—a very bad advertisement, and an urgent problem for traffic officers to solve.

Railway to the Canadian North-West

THE proposal of the Federal Government of Canada to build a railway from Alberta to the North-west Territories has elicited representations from the provincial Government of British Columbia to Ottawa. Two routes are under consideration, one from Grimshaw, in Western Alberta, and the other from Waterways, in Eastern Alberta. Both are intended to reach the Great Slave Lake Region, and, especially, the extensive mineral deposits at Pine Point on the lake. The more easterly route would by-pass the Peace River area. The British Columbia authorities point out that the westerly, Grimshaw route would tap the combined resources of the British Columbia and Alberta sections of the Peace River country. It also urges that this alignment be adopted as offering greater and more diversified potential traffic. Also to be taken into account are the developments to be expected from the new hydro-electric power potential at Hudson Hope on the Peace River.

Electrification Priorities in India

LINES of the Eastern and South Eastern Railways of India serving the industrial districts, and notably the collieries and steelworks, of Bengal and Bihar have high priority for electrification at 25 kV., 50 cycles. These are named in an answer to a Parliamentary question given in New Delhi and recorded on page 448. They are heavily-trafficked sections of the former East Indian (now Eastern) and Bengal Nagpur (now South Eastern) Railways, and ripe for electrification, which will much increase capacity. Long stretches of main line, including the remainder of the Grand Chord line of the Eastern Railway, are covered by the first three priorities announced. Goods traffic is the main consideration in these cases. The fourth and fifth priorities are allocated to Calcutta suburban lines of the former Eastern Railway to and from Sealdah terminus. Now that conversion of suburban lines serving Howrah terminus is making progress, it is felt, presumably, that urgent steps are necessary to relieve congestion of passenger services on the east bank of the Hooghly. The numbers travelling to work daily in Calcutta have greatly increased in recent years, and their movement is a problem of vital economic importance.

Speedy Tyre Reconditioning

THE installation of modern tools designed for a specific operation in repair depots is an important factor towards reducing the period locomotives and rolling stock are out of service. A single-purpose machine is now in use on British Railways for reconditioning vehicle tyres quickly *in situ*, without the need for any dismantling work on the vehicle. It is described on page 455. The machine, which is housed below floor level, operates as a milling machine, and even with tyre steel of up to 75 ton/sq. in. tensile, light cuts can be taken. This is a distinct advantage when compared with conventional single point turning where excessive material is frequently removed in getting under hard spots. The fact that brake gear and other equipment does not need to be stripped saves considerable time and labour, and with the reconditioning time of 1-1½ hr. for a four-wheel vehicle makes the machine a valuable asset in the modern repair depot. It is manufactured by the North British Locomotive Co. Ltd. for the Atlas Engineering Company, which holds an exclusive manufacturing licence from the patentees, the Standard Railway Equipment & Manufacturing Company, Chicago, U.S.A.

Labour Party Transport Policy

THE debate on transport on the last day of the Labour Party Annual Conference at Scarborough, brief as it was, was revealing. It disclosed the different lines on which the railwaymen, the transport workers and the National Executive and the Parliamentary Labour Party are approaching transport policy in general, and the finances of the British Transport Commission, in particular. The debate arose on a resolution of the National Union of Railwaymen which drew attention to the deterioration in the Commission's position and demanded that urgent consideration be given to the transport policy to be implemented by the next Labour government. The platform was able to accept the resolution, as it is already committed to making such a review, and it gave an undertaking that this was to proceed immediately and, in fact, that a meeting with the Trades Union Congress and the unions concerned had already been arranged for early next month.

The debate showed the unions to be suffering from a split mind. Mr. S. F. Greene, General-Secretary of the N.U.R., moving the motion, stated the dilemma that faces them. The recent wages increases, and the projected review of the working conditions of railwaymen, which aims at bringing them into line with other comparable industries, will be costly to the Commission. Where the money is to come from, nobody knows. As employees the railwaymen desire higher fares; as members of the community they resist them. Similarly, wherever there is a demand for economies, trade unionists as transport users join in the protest against the curtailment of the public services, and notably the closure of branch lines. It might have been added that the unions themselves in their capacity of employees sometimes resist such curtailment, as in the case of London Transport. Mr. Greene made no attempt to reconcile these opposing attitudes, preferring to suggest that the Commission was operating under a "phoney" commercial system. It was under an obligation to pay its way but denied the means of doing so. It could earn only what the Government allowed it to earn. By implication, it appears the unions have not completely discarded the illusion that higher charges provide the answer. They seem to overlook the fact that the railways, and much other public transport, with each rise in charges price themselves out of another section of the market.

In all circumstances, no wonder Mr. Greene saw difficulties ahead, and could not put forward any constructive proposal as to how to overcome them. In fact, he was unrealistic, in that he wished the railways to be put in a position in which they could function efficiently, and at the same time earn surplus revenue to make their proper contribution to the finances of the B.T.C. He went even further when he added that he wanted the Commission to make a profit, but only so as to plough it back into the business so as to take advantage of technical progress and make possible the payment of reasonable wages to transport employees. With that pious hope few would disagree, but Mr. Greene had himself already shown how impossible it was of fulfilment, as he had referred to the Commission's growing deficit, heavy capital expenditure, and higher wages bill.

Mr. Frank Cousins, General Secretary of the Transport & General Workers Union, speaking for that union, was not much more constructive. He thought that the way to make the Commission financially sound was not to restrict people from doing their jobs but to create an efficient service. He denied that eliminating competition from other services resulted in greater efficiency. On the contrary, he argued, competition was the way to efficiency. Because, presumably, of the large number of his members engaged in ancillary user operations, he seemed reluctant to restrict "C" licences. If so, he differs in this from the T.U.C., which, as the Executive spokesman, Mr. Ray Gunter, President of the Transport Salaried Staffs' Association, pointed out in winding up the debate, is committed to such restrictions, and he differs also from the Labour Party, which has endorsed this in principle in its policy statements. Frank Cousins, who considered integration to be the real problem, reminded delegates that until very late in the day

the unions had failed to agree upon it among themselves and had accordingly handicapped the Commission. He urged that some co-ordination among the unions concerned was first required. Although they differed as to the way out of the dilemma, all three union spokesmen, Mr. Greene, Mr. Cousins, and Mr. Gunter, agreed in demanding that the working conditions of their members must not be prejudiced by the financial plight of the Commission, and that they could not be expected to carry the burden.

This then was the dilemma, as revealed at Scarborough. The unions desire their members to be in as good a position as workers in comparable industries, but, with the financial position of the Commission as it is, they cannot point the way to meeting the bill. Neither the floor nor the platform could provide the answer either. As Chairman of the Parliamentary Labour Party Transport Group, Mr. Ernest Davies, Member for Enfield East, considered the answer to be a return to the 1947 Transport Act and the re-creation of a monopoly of long-distance transport, including both road passenger and goods transport. He argued that as there was an excess of transport facilities, their most economic use could only be achieved through a planned transport system, and that that would entail some restriction on private transport. He did not feel that curtailment of public services solely on economic grounds was the right solution.

Mr. Gunter, for the platform, made no pretence at providing the answer, nor at forecasting what the results of the promised consultations with the T.U.C. and the unions concerned would bring forth. He hinted that changes would be necessary, and traffic would have to go by the best way possible, which was not necessarily the way it was now going. He foresaw cuts in rail services and claimed that they would be easier to effect if road passenger and freight services were under the same ownership and control, enabling alternative provisions to be made. From this it would appear the Labour Party is still thinking in terms of the 1947 Act. It has apparently learnt nothing and forgotten nothing.

Useful as this exchange of views and revelation of differences in emphasis no doubt was, the transport industry and its users must still await Labour's definitive transport policy. The task of formulating it is now with the standing joint committee of the Labour Party and the Trades Union Congress. The sooner agreement, if that be possible—even on an unwise policy—is reached, the better.

The Railway Congress

THE 520 delegates from 114 railway administrations who have been attending the seventeenth International Railway Congress in Madrid will have brought away with them a number of deep and lasting impressions. The first, perhaps, will be of the historic beauty of Madrid and its sister cities which were visited and the manner in which the best features of modern buildings and amenities have been blended with the old to form a whole which avoids incongruity. The spaciousness of the principal city thoroughfares and the broadly spaced road junctions must be a matter of some envy among urban traffic operators from more congested towns. There will be many pleasant memories, too, of the great courtesy and warm hospitality of the Spanish hosts to the Congress, and indeed of the Spanish people generally with whom the visitors came into contact.

Of the Spanish Railways themselves, it may be said that it is very obvious that the administration is not only fully alive to the need to make good as speedily as possible the inevitable deficiencies which arose from long periods of political unrest, but is pressing ahead with ambitious plans of improvement which are designed to provide for a long while in the future. The present five-year plan is based on track improvements covering the whole of the system, large-scale electrification, including practically all the trunk lines, and very big re-equipment programmes. One of the chief aims of the plans for changes in the immediate vicinity of Madrid is the segregation of goods and passenger traffic. Provision is being made for through

goods traffic to by-pass the city. To facilitate the movement of through passenger traffic a 4½-mile tunnel has been constructed from the Chamartin passenger station in the north of the city beneath the principal thoroughfares the Castellana and the Paseo del Prado to the Atocha station in the south. This will give a full north-south railway link for passengers, for just as all the northern zone, passenger lines come together at Chamartin, so the remaining lines meet at Atocha.

About midway along this tunnel has been constructed the underground station of Los Ministerios, the largest of its kind in the world. There is provision for four tracks—for main-line trains—and two platforms each 20 ft. wide. The station is formed by twin vaults, each 65 ft. in span and 350 yd. in length. The width of the pits is 24 ft. 6 in., the height from rails to platforms 3 ft. 6 in. and the height from platforms to ground level from 36 ft. to 46 ft.

The whole of this work is most impressive and inevitably raises the thought that if such a construction is possible in Madrid, which has a population of some two million, how much more desirable would be a similar work—the Victoria Line—in London with its far greater traffic potential. The Ministerios station is admittedly designed to meet traffic needs which may be well in the future but as a project and as an engineering work it is an achievement of which any nation may well be proud.

Of the technical sessions of the Congress the value will be judged in the future rather than by the immediate conclusions. It was clear that on many points discussed there was a valuable diversity of view and a willingness to make available the fruits of diverse experience. The care with which definitions were discussed sometimes led to protracted meetings, but at any rate was evidence of a sincere determination to achieve agreement on sound bases.

By no means the least valuable feature of the Congress were the many opportunities provided for bringing together in informal discussion railwaymen from administrations widely differing in practice, experience, and problems. A very great deal of useful exchange of information was undoubtedly achieved in this way. The personal relations established at the Congress will undoubtedly prove of great value to many of the participants for a long while to come.

British-Built Rolling Stock in Rhodesia

THE Commonwealth Institute in South Kensington, for many years, under its former name of Imperial Institute, has been an important source in London of information on the economic development of the British Empire and Commonwealth. It is not always realised, however, how vital a part railways are playing today, and must long continue to play, in making possible the economic growth of the countries of the Commonwealth. The achievements of Rhodesia Railways are particularly noteworthy. It is gratifying that the Commonwealth Institute now includes, as an integral part of the rearranged Court of the Federation of Rhodesia & Nyasaland, an exhibit illustrating the importance of communications in Rhodesia, and the part played by the railways in developing the country.

The exhibit depicts a scene from the single line running north to the Copper Belt and includes models which have been presented jointly by Beyer Peacock & Co. Ltd. and the Metropolitan-Cammell Carriage & Wagon Co. Ltd. Wankie Colliery is shown at the one side and the great mines of the Copper Belt at the other. The track joining the two crosses a model bridge representing the famous bridge at Victoria Falls. This part of the system carries a very large tonnage of coal north to the Copper Belt. It also carries copper, so important to the economy of Rhodesia, and general exports from Northern Rhodesia to the South and thence to the ports. Handling the spectacular increases in traffic since the war has been made possible by the enlightened and imaginative policy of the railway management. The models included in the exhibit are scale reproductions of Rhodesia Railways

"20th" class Beyer-Garratt locomotives, built by Beyer Peacock, and the 40-ton capacity all-steel bogie high-sided wagons built by Metropolitan-Cammell. Use of these powerful engines and high-capacity rolling stock has enabled trains of up to 1,940 tons to be worked.

The ability of the 3-ft. 6-in. gauge Rhodesia Railways to handle the ever-increasing traffic is justification of the bold policy they have followed in building up their resources and the efficient way these have been used. Both Beyer Peacock & Co. Ltd. and the Metropolitan-Cammell Carriage & Wagon Co. Ltd. have in their respective fields been the main suppliers of locomotives and rolling stock purchased by the Rhodesia Railways. The combined value of these orders amounts, since the war, to some £18 million—a large sum in relation to a community of only 7,000,000 in a country which is still in the early stages of development. It has been well spent. At the invitation of the two firms, the new addition to the Commonwealth Institute was inspected recently by Mr. Eastwood, Minister of Transport & Works, Federation of Rhodesia & Nyasaland. He was accompanied by Sir Gilbert Rennie, High Commissioner for the Federation, and by Mr. O. S. Naylor, London Agent of the Rhodesia Railways.

The visit to the Institute was preceded by a luncheon party at the Savoy Hotel, at which Mr. H. Wilmot, Chairman and Managing Director of Beyer Peacock & Co. Ltd., and Mr. L. B. Alexander, Special Director of the Metropolitan-Cammell Carriage & Wagon Co. Ltd., received the guests. A brief account of this function is given elsewhere in this issue. A reminder was given by Mr. Wilmot of the great knowledge, experience, and industrial resources of British manufacturers on which railways overseas can call. The importance of Rhodesia as a market for rolling stock is shown in the statistics of the Carriage & Wagon Building Association, quoted by Mr. Alexander: over the last nine years the yearly average of exports to Rhodesia is 11 per cent of the total for the whole of that industry. Signalling and telecommunications equipment, including C.T.C., are other important items supplied to the Rhodesia Railways from Britain. What had been done for the railways of their country was acknowledged by the Minister and by the High Commissioner. There is every prospect that this useful association will continue.

C.T.C. in Western Australia

TRAFFIC came under centralised control (C.T.C.) recently on the single-line section of the Western Australian Government Railways south-west main line, between Armadale and Pinjarra, 34 miles. Up to 70 trains can now be handled a day, if necessary.

Installation of C.T.C. on the W.A.G.R. was first proposed in 1944. It was reported to the Publicity Committee of that time as a means of improving operation on the south-west main line, where traffic had become so heavy that doubling was under consideration. The then Commissioner, Mr. J. A. Ellis, was so impressed with the signalling proposition that it was referred to a special committee for examination and report. The committee reported favourably, and its report was confirmed by the newly appointed Signal & Telecommunications Engineer, who had had experience of C.T.C. in New Zealand and was well aware of its advantages.

The proposal to double was shelved when it was realised that C.T.C. would give almost the same track capacity at approximately half the capital cost and considerably less in maintenance expenditure, and recommendation was made to the State Government that it be installed. Approval was given by the Premier in February, 1949, to proceed with the installation. No immediate move was made, as there was a change pending in the administration; and it was considered the incoming Railways Commission should have an opportunity to endorse the previous recommendation. This was done, and materials were ordered; but because of lack of finance, and some opposition, there was considerable delay. It is only recently that work on the first section has been completed. It must be remembered that in 1944 and

for a few years afterwards, C.T.C. was relatively untried, before its application on a large scale, and notably in the U.S.A., where its success on long sections of single line, in many cases up to 200-300 miles, impressed W.A.G.R. officers. It would be interesting to know how far the success of this form of traffic working on the Rhodesia Railways has been studied in Australia.

Originally the proposition was to install C.T.C. from Armadale to Brunswick Junction and double the south-west main line between Armadale and Byford. Shortage of funds has caused this proposal to be amended; and in the first place C.T.C. without duplication to Byford will be progressively installed from Armadale to Pinjarra. The benefits following this installation will be studied; and if warranted the system will be extended beyond Pinjarra to Brunswick Junction.

Underground Railways of Tokyo

ONE of the world's three largest cities, Tokyo, has a population of about 8,400,000 and it is increasing at the rate of some 60,000 a year. The propensity of its people for travelling is also growing correspondingly, and its road traffic has almost reached saturation point. In addition to the Japanese National Railways lines, there is a network of privately-owned electric suburban railways serving the wide-spread suburbs, but in the city the only obvious method of reducing traffic congestion is by the expansion of the underground railway system, virtually all of it belonging to the Teito Rapid Transit Authority.

Of the 68 miles of these lines at present in operation, under construction or to be undertaken in the relatively near future, 20½ miles are open for traffic, 16½ miles are being built by the Authority and 10½ by the municipality. There are three separate and distinct lines being worked or constructed by the T.R.T.A. One of them is the subject of an article on another page, where there is also a map of the whole underground system, reference to which may clarify what now follows.

They are: (1) the Ginza line running from Asakusa in the north-east of the city to Shibuya in the south-west, a distance of 14·3 miles open for traffic throughout; (2) the Marunouchi line of U-shape from Ikebukuro in the north-west into the heart of the city and out again westwards to Ogikubo, partly in service and partly building; and (3) the north to south Kitasenju-Nakameguro line, known as "No 2 Route line," about half of which is at present under construction. It is expected to be completed by 1964 when the aggregate route-mileage of these three lines will be about 44 miles; by April next nearly 25 of these miles will be open for traffic.

All these lines are of a 4 ft. 8½ in. gauge and electrically worked on the 600 V. d.c. third-rail system. Modern all-steel 59-ft. rolling stock is used, every vehicle being a motor-coach weighing on an average 38 tons and carrying 140 passengers. Colour-light signalling and automatic train-stop equipment are installed and the standard double-line tunnels are of concrete in box-section built normally in shallow open cut.

The first section of underground railway in Tokyo was opened in 1927 from Asakusa to Ueno, and is part of the Ginza line, also the first line to be completed throughout to Shibuya in 1939. It was at first worked by two private companies but in 1941 was taken over by the T.R.T.A. At Shibuya it connects with the Yamate line of the National Railways and with three private suburban electric railways radiating west and south-westwards. The Ginza line taps the business centre of the city at Toranomon and a number of the principal shopping centres also at some of its 18 stations.

In common with the Marunouchi and probably other lines as they are completed, the Ginza line charges a flat-rate fare of 20 yen whatever the distance travelled. The rolling stock consists of 137 motor-coaches operated in five-car units. During rush hours the headway between trains is 2 min., and the average number of passengers carried daily is 380,000.

Construction of the Marunouchi line began in 1951 at

Ikebukuro, where connection is made with the Yamate and Akabane lines of the National system and with two private north-western suburban electric railways. It was opened in successive sections to reach Nishi-Ginza, the busiest shopping centre in the city, in December, 1957. The length of construction involved to that point was 6·2 miles, and this and other features of this line are described in the article. This section has 10 stations and a rush-hour headway of 2½ min. between trains made up of four-coach units; it carries 189,000 passengers daily. At Ochanomizu there is interchange with the Chuo and Sobu lines of the National Railways, and its Tokyo underground station is adjacent to the Tokyo Central Station of that system. It also serves educational areas and the Marunouchi business centre.

This line is being extended westwards from Nishi-Ginza to Shinjuku and Ogikubo with a branch to Honancho, the expected dates of opening to those places being April, 1959, 1962, and 1960 respectively. At Shinjuku connection is again made with the National Yamate and Chuo lines, and two private railways have their termini there.

The third underground line is under construction from Kitasenju to Ningyocho, 5·5 miles, and this section into the heart of the city is expected to be completed by 1961. The remaining 7·6 miles onwards to Nakameguro is unlikely to be opened before 1964. Here again there will be junctions at both termini with private suburban electric railways and through running is likely to be established. There are numerous other underground lines proposed in and around the city, but at present only those dealt with above are either in being or definitely programmed for early dates. From the foregoing and from the article and its illustrations it will be evident that Tokyo has a rapidly-expanding and thoroughly up-to-date underground transport system.

American Railroad Developments

(By a correspondent)

THE Association of American Railroads published a doleful report on the transport situation in August. For 32 weeks to August 9 wagon loadings numbered 17,677,560, a decrease of 4,351,700, or nearly 20 per cent, from 1957. The one bright feature in this year's record was an increase of 4·3 per cent in grain loadings to 1,728,280, the highest total for the same weeks in any year since 1918. The mining industry produced 70 million fewer tons of coal and loaded 959,840, or 23 per cent, fewer railway wagons. With the steel plants working at little over half capacity, ore forwardings dropped by 47 per cent to 916,700 wagon loads. To August 1 the tonnage of iron ore shipped from Lake Superior ports was 21,750,000, against 44,520,000 last year, and the total quantity to be shipped this season may not exceed 55 million tons.

Commodity statistics for 1957 are not yet to hand, but in 1936 grain loaded to over 50 tons a wagon and earned \$340 of gross revenue. The average load of 60 tons of coal earned \$206 and the larger load of 65 tons of iron ore produced about \$135. So the most serious blow to the railroads may have been the loss of 2,253,100 wagon loads of high rated merchandise and "smalls" compared with 1957 to August 9. In contrast to the same period of 1956 the loss was 2,994,800 loads, or over 20 per cent; in that year the average wagon of merchandise contained 32 tons and added \$350 to gross revenue. Freight rates are now on a higher scale.

Some railways are spending money on special wagons and facilities for carrying road trailers on flat wagons. In 32 weeks the number of such flat wagons loaded was 154,700, an increase of 2,600, less than 2 per cent. Meanwhile the serviceable stock of ordinary wagons at August 1 was 31,450 less than a year ago. At that date new wagons on order numbered 31,000, against nearly 80,000 last year. The number of wagons under repair was 140,290, or 8 per cent of stock, compared with 78,290, or 4·5 per cent of

stock, twelve months earlier. With an average daily surplus of 90,000 wagons in July, there is a great temptation to let the stock run down, especially by allowing repairs to accumulate, in these times of financial stringency. The railroads will be wise, however, not to carry this policy too far, as they did in 1954, and leave themselves short of equipment, when industrial output revives.

FINANCIAL RESULTS

Another of the admirable statements, which the A.A.R. issues punctually, gives a comparison of the operating income account for six months ended June with the previous five years. On the whole 1953 was the last satisfactory year for the U.S.A. railways as it was for British Railways. Operating revenues have fallen since 1953 from \$5,327 million to \$4,534 million, a decrease of nearly 15 per cent. In spite of a 7 per cent cut in expenses, the operating ratio rose from 75·5 per cent to 82·2. Earnings, before charges, dropped from \$549 million to \$233 million, or by 57 per cent. This means that the rate of return on property investment for 12 months ended June 30 was 2·6 per cent compared with 3·7 per cent in 1957. In these circumstances there seems to be no hope of attracting investment in improvements which are necessary, if the railroads are to remain the only true common carriers in an era of subsidised competition with road, water and air carriers.

Letters to the Editor

(The Editor is not responsible for opinions of correspondents)

Motive Power Policy

September 16

SIR,—There is an increasing tendency to use the new British Railways Class "9" 2-10-0 goods locomotives on express passenger trains. According to reports speeds of over 80 m.p.h. have often been recorded and one report suggests a speed of over 90 m.p.h. In its supposed dying days British Railways thus seem to have produced an incredibly free-running and free-steaming locomotive, and if these characteristics could be reproduced in a mixed-traffic 2-8-2 design fitted with a mechanical stoker and burning slack coal, not only might British Railways motive power problems be resolved but also those of many other railways.

The speeds mentioned above by the 2-10-0 engines would seem, from the point of view of piston speeds and port openings, equal to, if not better than, *Mallard's* performance on its famous recording-breaking run.

Yours faithfully,

J. B. LATHAM

"Channings," Kettlewell Hill, Woking, Surrey

Buckeye Couplings

October 1

SIR,—In the accident at St. Johns in December, 1957, the deathroll was greatly increased by the collapse of the bridge, caused by the engine tender and the leading coach of the 4.56 p.m. steam train from Cannon Street being forced sideways by the impact, thereby striking and destroying a stanchion of the bridge. An aspect of this on which I have so far seen no comment is that, whereas Southern Region main-line carriages are fitted with Buckeye couplings, the locomotives are not. Therefore this point would be the weakest in the train for withstanding the compressive shock caused by a collision. It was most unfortunate that this point should have been opposite a stanchion at the time of the accident.

This was not the basic cause of the accident, but it contributed to a large increase in casualties. It is worth considering whether the locomotives should be fitted with the Buckeye coupling, as are some engines in other Regions.

Yours faithfully,

A. W. T. DANIEL

3, Hall Way, Purley, Surrey

THE SCRAP HEAP

"Not Lost..."

Daniel Duffy, who runs the New York Subway lost and found department, clapped his brow when the latest item was handed to him, saying: "I may as well retire. I've seen everything now." It was a 60-lb. granite gravestone.—From the "Evening News."

Not So Golden Years (1858)

There are indications of a very pretty quarrel between railway passengers and railway shareholders. Hitherto the quarrels have been between railway and railway. . . . The railways, though very spiteful to one another, were always liberal to the public. Branches to every bit of a town, 10 trains a day up and down at all sorts of times, possible or impossible, express speed for those who chose to pay for it, and splendid stations in every style, new and old, paraded the generosity, and, it was supposed, also the success, of the rival companies. . . . A generation is growing up which only hears of the dread struggle, which travels but buys no shares. We who have seen the whole institution rise up from Stephenson's bold but modest predictions before a Parliamentary Committee, who have seen half-a-dozen first sods turned, and known country

gentlemen take counsel to stop railways altogether, or prevent the trains from running, can hardly imagine the hard selfish, insolent race of travellers that now enter a station or turn over the pages of the *Guide*, with full intent to get their money's worth, or more than their money's worth, from the poor bankrupt rail.—From "The Times" of September 15, 1858.

[A keenly debated question at that time was whether the new mileage then being built or promoted was justified financially. It was felt that many new lines were losing money and reducing the value of the parent properties.—Ed., R.G.]

Bus Under Bridge Stops Trains

Trains on the Lewes to Eridge line were held up when a trolleybus on tow to be broken up was jammed under a railway bridge spanning Lewes High Street. There is a clearance of 14 ft. 9 in. under the bridge. Double-decker buses regularly go under it, so it was assumed that the trolleybus would too. It would have done but for the projecting electrical arm on the top which got stuck. Three hours later the bus—carrying a "What's your hurry?" advertisement—was still jammed. The railway track was not damaged.—From "The Evening Standard."

Spare the Rod . . .

Train spotters tampering with coal wagons in a siding at York tipped 90 tons of coal on to the line. The line was blocked for 60 yd. by coal 2 ft. deep, and had to be cleared by a mobile crane and a whole gang of men. The leader of the train spotters, a butcher's boy, was fined 25s. for his part in this escapade. For stealing a book on train spotting and for two offences of trespass he was conditionally discharged. . . . I wrote of impotent magistrates and authority derided. This is precisely what I mean. Can anybody explain to me why, for his own good and for that of society, this boy should not have been thrashed?—Peter Simple in "The Daily Telegraph."

No Réveillée

A correspondent states that at Gedser, Danish terminus of the train ferries to Grossenbrode in Western and to Warnemünde in Eastern Germany, the engine turntable squeaked loudly, but that the railway staff did not complain, because when they heard the noise in the mornings they knew that it was time to get up. Some days ago a visitor was so appalled by the noise that he oiled the turntable with Volver Compound. Next day all the railwaymen were late for work.

Matisa

(On seeing, for the first time, a ballast cleaner at Reading, Western Region)

Oh! Oxford Road, tho' now alas! no more
From thee I trespass Progress to explore,
And steal in Tilehurst yard each morn,
and there
To view Matisa sleeping in her lair.
How strange thy actions, wide thy open jaw,
What agony torments thy writhing maw!
How sharp thy talons, dread thy shudd'ring roars
As down thy throat continuously there pours
The gravelly mass, on to thy tongue-like screen,
Extraneous extracting, making clean
The precious stones, of which more use to make
Thou gargoye-like disgorgest in thy wake.
And when thy stint is reached, then thou must wait,
Constrict thine appetite insatiate,
Hold thy potential, and in leisure hours
Re-energise and then conserve thy powers;
And rest awhile within some refuge quiet,
Recuperating from that mineral diet,
Against the time when from thy fetters freed
Thou ventur'st forth anew to meet
Man's need.

W. H. Y.

Stamps to Commemorate International Railway Congress



Spanish postage stamps commemorating the seventeenth International Railway Congress depict a Confederation type express locomotive, a diesel-hauled "Talgo" train, and a diesel-electric locomotive crossing the Despenaperros Gorge. The colours are: 15 céntimos sepia; 60 cts violet (design as for 2 pesetas); 80 cts dark green; 1 peseta orange (design as for 15 cts); 2 pesetas magenta; 3 pesetas blue (design as for 80 cts)

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

RHODESIA

Diesels on South-East Line

Maintenance and fuelling facilities for the diesel-electric locomotives now working between Bulawayo and Malvernias have been provided at Bulawayo; and, by arrangement with the Mozambique Railways, they can take fuel at Malvernias. A 7,000-gal. fuel tank is being installed at Salisbury. It will facilitate the interchange of locomotives between Bulawayo and Umtali, Rhodesia Railways main diesel workshops are at the latter place.

SOUTH AFRICA

Electrification Progress

Good progress is reported on electrification between Vereeniging and Kroonstad. The total mileage to be electrified is 121, and the cost is estimated at £3,110,000. The work is slightly ahead of schedule. Steelwork masts have already been erected between Wattles and Vereeniging. The steelwork for the overhead wires has also been completed over 60 miles between Coalbrook and Kroonstad. It is expected that all the work will be completed by June, 1959.

The intention is to have a depot at Kroonstad for attention to faults and minor repairs. All major repairs will be done at the Braamfontein electrical workshops. The section of line now being electrified will be worked with Class "5E" electric locomotives.

INDIA

Orders for Wagons

The Railway Board placed orders with eight Indian firms for the manufacture of 17,613 railway wagons of

different types under the 1957-58 programme; 13,788 of these had been delivered up to July and the balance is expected to be delivered by December. The Railway Board also placed "educational" orders on 10 new firms for 2,350 wagons under the 1957-58 programme.

Electrification

The following sections on the Eastern and South Eastern Railways have been given the highest priority for electrification: (a) Durgapur-Moghalsarai including Pradhankanta-Pathardih; (b) Asansol-Sini - Tatanagar - Rourkela Rajkharwan-Barajamda; (c) Kharagpur-Tatanagar; (d) Sealdah-Ranaghat; and (e) Dum Dum-Bongaon in Sealdah Division.

This information was given recently by Mr. Shah Nawaz Khan, Deputy Minister for Railways, in a written reply to a question in Parliament. He replied in the negative to the question whether any decision had been arrived at regarding contracts to be given to foreign firms of electrical engineers from whom tenders were invited earlier this year.

Literacy Campaign on Railways

As part of the Railway Board campaign to eradicate illiteracy amongst railway employees, some 40 adult literacy centres are to be set up in places where large concentrations of railway staff live. The State Governments concerned will be asked to run these centres through their social education organisations. Railway welfare inspectors and other railwaymen who volunteer to teach their colleagues will be associated with these centres to learn instructional techniques.

An honorarium of Rs. 20 (£1 10s.) a

month is to be paid to instructors taking the adult literacy classes, which will be held three times a week.

VICTORIA

New Station Opened

Laburnum station, between Box Hill and Blackburn, was opened to traffic recently.

The station buildings are of modern brick veneer construction. Concurrently with the opening of the station, mechanical signalling under the telegraph block system was abolished and automatic signalling introduced between Box Hill and Blackburn. Later, it will be extended to Ringwood.

Laburnum is one of the new stations made necessary because of the growth of population in the outer suburban areas, resulting in a substantial increase in longer distance passengers on the electrified system.

NEW SOUTH WALES

Suburban Electrification

Electrification is at present proceeding on an outer suburban extension between Hornsby and Cowan, nine miles, on the main northern line from Sydney to Newcastle and beyond. The inner suburban section of this line is already electrified as far as Hornsby, 21 miles from Sydney. Hornsby can be reached by suburban services on the main line via Strathfield and on the North Shore line via the Harbour Bridge.

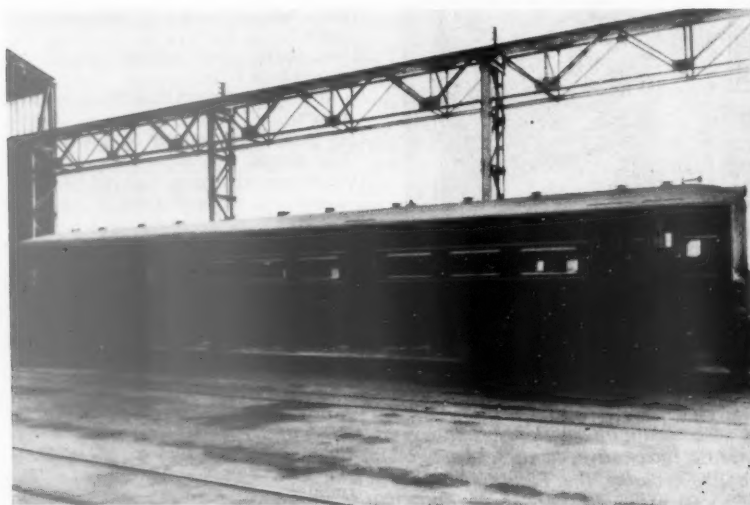
An outer suburban shuttle service is worked between Hornsby and Cowan by steam locomotives or diesel railcars. In recent years development in the area served by this part of the line has been rapid. Conversion of the line to Cowan is expected to be completed by January 1, 1959, when the existing multiple-unit suburban coaches will be used.

Electrification of this outer suburban extension is part of a larger project for the conversion of the main Sydney-Newcastle route to electric traction as far as Gosford, 50 miles from Sydney. The complete project embraces the conversion of 29 miles of line in all. Already masts to carry overhead equipment have been erected for about three-quarters of the way from Hornsby to Cowan.

WESTERN AUSTRALIA

Railcars and Wagons for India

The largest single shipment of railway rolling stock yet to leave Australia was shipped from Fremantle for Madras recently. The shipment comprised 12 fully-erected, 45-ton diesel passenger railcars designed for operation on 5-ft. 6-in. gauge and 60 sets of sub-assembly components for metre-gauge



Broad-gauge diesel railcar built by Commonwealth Engineering (W.A.) Pty. Ltd., Perth, for the Indian Railways

goods wagons, which Australia has made available to the Indian Government under the Colombo Plan. This consignment brought the number of diesel railcars Australia has supplied to India to 24 and the number of goods wagons to 2,000.

The stock represents part of the Australian Colombo Plan contribution to the Indian Second Five-Year Plan. The railcars were built at the Bassendean, Perth, plant of Commonwealth Engineering (W.A.) Pty. Ltd., a subsidiary of Commonwealth Engineering Co. Ltd., Sydney.

MALAYA

New Dispensary at Port Swettenham

The new railway dispensary at Port Swettenham was opened recently. It is the largest of its kind in Malaya. It caters for the 2,000 railway staff and their families in Port Swettenham and will eventually serve the staff to be engaged on the new port facilities.

The General Manager of the Malayan Railway, Mr. D. D. Bartlett, has pointed out that the Malayan Railway has been losing an average of 15,000 days a year through sickness of its employees—10 times more days than in any industrial dispute since the end of the war.

The dispensary is centrally located in

the railway reserve at Evans Road, Port Swettenham. It consists of two waiting rooms, two treatment rooms, a dispensary, a store, and a garage for an ambulance. At present it is staffed by two hospital assistants; a medical officer is to be appointed shortly.

SPAIN

Zamora-Coruña Railway

Regular service commenced on September 9 over the final section of the new Zamora-Coruña railway, from Orense to Santiago de Compostela. The day and night trains from Madrid to Coruña have been diverted to this route, saving 60 to 75 min. respectively on their overall journey times. As the Madrid-Coruña train now passes through Santiago, the former sleeping car from Madrid to Santiago via Redondela has been withdrawn.

UNITED STATES

The Old Colony Line, Boston

The Old Colony outer suburban line at Boston, on the operation of which the New York, New Haven & Hartford Railroad had been losing heavily, and over which the railway had obtained authority to discontinue its service, has

obtained a reprieve. The transfer to the roads of all the Old Colony commuters during the morning and evening rush hours threatened such congestion that the Massachusetts legislature has been compelled to take action. Against formidable opposition, the House and the Senate have both approved the payment to the railway out of public funds of the sum of \$900,000 annually for the railway service to be continued. Payment of the subsidy began on October 1. Of the total Boston will pay \$250,000 and the 37 communities served by the line will find the remaining \$650,000.

DENMARK

New Rolling Stock

Second class reclining-seat coaches ordered by the State Railways from Scandia S/A, Randers, will be 74 ft. long, and seat 60 (36 in the smoking and 24 in the non-smoking saloon), two seats in each row on either side of a centre gangway; two rows on one side will face in the opposite direction from those on the other side of the gangway. The bodies will be lined with various plastic materials. Minden Deutz bogies will be fitted.

Five hundred other wagons on order from private builders are due for delivery between now and the end of 1960.

Publications Received

The Diesel-Electric Shunting Locomotive. Shrewsbury: Wilding & Son Ltd., 33, Castle Street. 8½ in. × 5½ in. 80 pp. Price 5s.—The sub-title of this book is "Simply Explained." The author, who is presumably closely associated with the diesel locomotive drivers whom he aims to assist, tried hard to achieve this object. In general conception the book should be useful to the driver who is interested in the machine he handles. It is good value for its moderate price. It contains many diagrams which help in understanding how the various components operate. It is unfortunate that some of these were not executed with more neatness and clarity, which would have made them easier to understand, besides reducing their number. The subjects covered by the author are good from a driver's point of view. It is doubtful, however, whether even a non-technical operator needs a statement to be repeated more than once, if at all, to appreciate its importance; clarity of expression, rather than repetition, is to be desired in publications of this kind.

Handbook on Transport Users' Consultative Committees. London: The Central Transport Users' Consultative Committee, 22, Palace Chambers, Bridge Street, S.W.1. 9½ in. × 6½ in. 12 pp. Paper covers. Price 6d.—This well-written booklet gives all the essential information on the Central Transport Users' Consultative Committee, the Committees for Scotland

and Wales, and the Area Committees. The work of these bodies is clearly described. There is a specially useful section "How to Use Consultative Committees," with instructions *inter alia* on the way to make representations and objections. Another section replies to some public criticisms of Consultative Committees. Lists are included of nationalised transport undertakings and of the officers to whom complaints and suggestions should be sent in the first instance; and of the several committees, showing the areas served, with a map. The style is clear and concise. The handbook is the subject of editorial comment on page 441.

Newcon Swarf and Scrap Handling Conveyors.—New Conveyor Co. Ltd., of Brook Street, Smethwick, Birmingham, 40, has published a 16-page catalogue describing its conveyors built for handling swarf and scrap. The company handles complete installations, including reclamation systems, buildings and so on, and the brochure illustrates some of the plants for which it has been responsible.

Sécheron Products.—The S.A. des Ateliers de Sécheron, of Geneva, has issued a folder containing illustrated descriptions of the firm's products used in electric railway locomotives, railcars, and multiple-unit rolling stock, on many railways, and also in trams and trolley-buses. The illustrations are accompanied by descriptive text in English, French, German, and in some cases

Spanish. The folder includes not only locomotives and rolling stock delivered recently, but products dating back some 20 years. Most of the subjects are dealt with in one page, including a well-produced photographic illustration. The descriptive notes are clear. Besides affording a good preview of Sécheron designs and range of products, the folder gives much useful information on electric traction practice in Switzerland and elsewhere.

Tipping Wagons.—A four-page folder from Siegner Eisenbahnbedarf A.G., Siegen, Germany, describes and illustrates the 25-ton two-axle lifting type tipper wagon with hydraulic power mechanism; and also the 26-ton floor tipping wagon available when lifting is not required as well as the tipping.

Consolidated Pneumatic Class "F.E." Compressors.—A catalogue describing the makers' recently-introduced Class "F.E." range of horizontal, double-acting balanced opposed compressors, has been produced by the Consolidated Pneumatic Tool Co. Ltd., of 232, Dawes Road, London, S.W.6. This 12-page brochure gives details of design, application, and operation, with specifications of operating examples. Component parts are illustrated in detail. An introduction deals with considerations of design involved in eliminating vibration. Construction details are then given. This section is followed by specifications of various units ranging in capacity up to 5,000 cu. ft. per min. and pressures up to 3,000 lb. per sq. in.

Prototype Cars for L.T.E. Central Line

*Rolling stock ordered in preparation
for complete replacement programme*

TWELVE prototypes of a new design of tube car which will be used on the Central Line of London Transport have recently been ordered from Cravens Limited of Sheffield for delivery by the end of 1959. It is intended, after trials of the prototypes, to order approximately 330 more cars of the design. The new rolling stock will be of larger capacity than the present Central Line cars and will

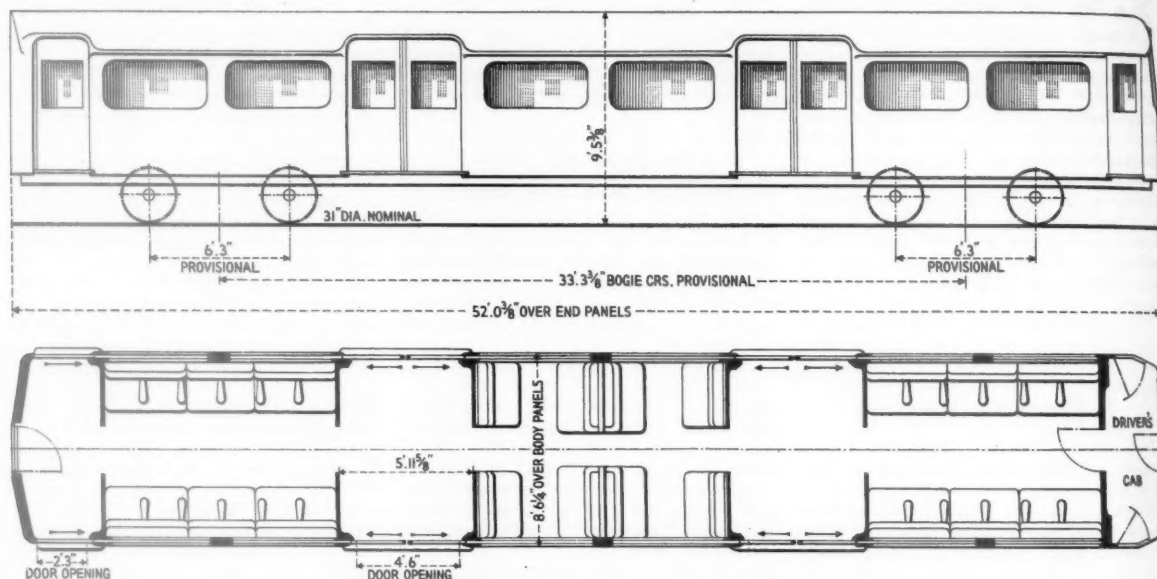
built cars will be similar in comfort to the completely new cars, and they will be painted silver. Their use will enable the re-equipment of the Central Line to be carried through more quickly and economically.

Design of Cars

The design of the motor cars is the result of a special study which has been made to determine the most

as in existing stock. Subject to satisfactory trials of the prototype cars, these features will be incorporated in the 330 motor cars which will form the bulk orders for Central Line rolling stock in due course.

As new Piccadilly Line trains now being built by Metropolitan Cammell Carriage & Wagon Co. Ltd. are delivered, some of its present rolling stock will be transferred to lengthen all



General arrangement and layout of prototype stock for the Central Line.

have an all-silver aluminium exterior, larger windows, more space round the doors to aid rush-hour movement, rubber springing and fluorescent lighting.

Traction Equipment Orders

Later this year, with the approval of the British Transport Commission, London Transport will be placing an order of some £4,500,000 for the traction motors and other mechanical and electrical equipment needed for the Central Line train renewal programme. This equipment order will be given in advance of the main one for the car bodies themselves, so that manufacturers who are also engaged on other recent Underground orders for similar equipment can plan their production and give London Transport the benefit of lower prices.

The newly-built cars will be motor cars constituting half the cars of a normal train. They will be used to form eight-car trains with an equal number of trailer cars obtained by rebuilding other rolling stock, much of it from the Piccadilly Line. The re-

satisfactory form of tube car construction and equipment for this particular service. They will have the draught screens set back from the entrances to give more room for passengers to enter and alight, thus reducing the time spent at stations in peak travel hours. This feature only slightly reduces the seating capacity and gives more room for standing passengers.

The twelve prototype motor cars will each have one traction control equipment, controlling four motors, mounted beneath the floor, making more room available for passengers.

Automatic Couplers

The cars will be fitted with automatic couplers at the driving end and have the improved type of door control, with roof-mounted fault-indicating lights, as fitted on the prototype Piccadilly Line trains now in operation, both these features making for ease of operation. The bogies will have both axles motored and will incorporate rubber suspension. Electro-pneumatic and Westinghouse air brakes will be fitted,

remaining Central Line trains from seven to eight cars before the new and rebuilt trains are delivered, thus giving interim benefits to the Central as well as the Piccadilly Line.

CONVEYANCE OF MOTORCARS IN SCOTTISH REGION.—British Railways, Scottish Region, has extended the range of special reduced rates for motorists taking their cars by rail. These facilities are now available as follows: (1) *within Scotland*: (a) between Glasgow or Edinburgh and Aberdeen, Inverness, Oban, Thurso, or Wick; (b) between Edinburgh and Stranraer; and (c) between Fort William and Mallaig; (2) *to and from England*: (d) between Edinburgh, Perth, Oban, Aberdeen, Inverness, Thurso, or Wick, and Bury St. Edmunds, Cambridge, Colchester, Ipswich, Norwich, Lincoln, Grantham, Peterborough, Sheffield, Doncaster, York, or Newcastle; and (e) between Edinburgh, Perth, Aberdeen or Inverness and London Kings Cross. The special combined rates include conveyance of car in a covered van and rail travel for the driver. Passengers accompanying the motorist pay normal fares. The facilities are available every day except Saturdays.

Tokyo Underground Construction and Equipment

The Marunouchi Line partly open, partly under construction

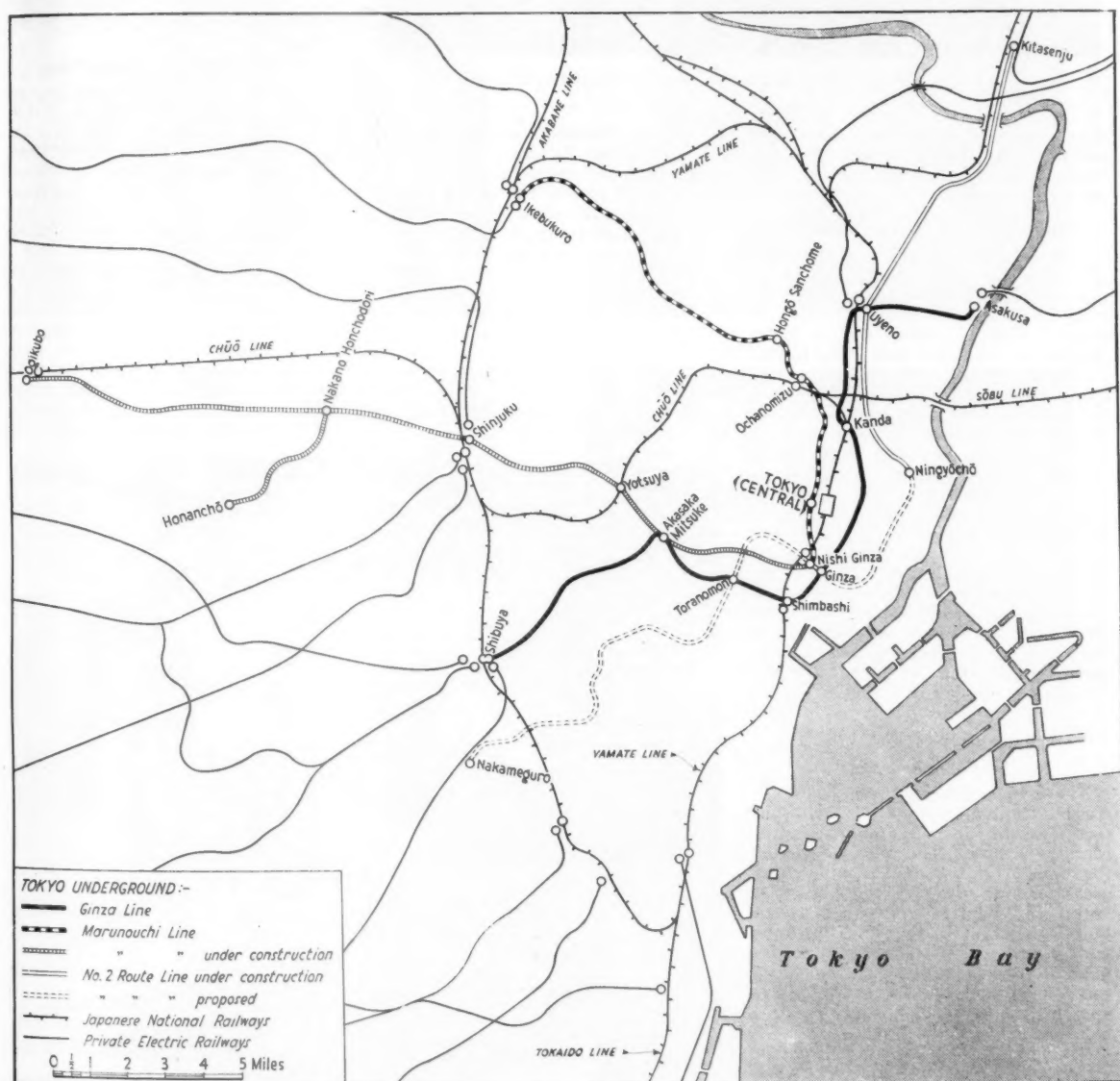
BECAUSE it embodies the latest Japanese practice in underground construction and equipment, half of it having been completed and opened for traffic in December, 1957, and part of the remainder expected to be finished in April, 1959, we have selected for brief description of the 17-mile Marunouchi line of the Tokyo Underground system.

The section already in operation is from Ikebukuro, the northern terminus, to Nishi-Ginza in the heart of the city, and is 6.2 miles in length. Not only is the succeeding 4.3 mile section from

Nishi-Ginza to Shinjuku well on its way to completion, but a further extension from Shinjuku to Ogikubo and a branch leaving it at Nakano Honcho-dori and running to Honancho, 5 and 1.7 miles in length respectively, are also under construction. An editorial in this issue outlines the Tokyo Underground system as a whole.

The section from Ikebukuro to Nishi-Ginza was constructed telescopically in three subsections: (1) Ikebukuro to Ochanomizu, 4.1 miles, begun in April, 1951; (2) Ochanomizu to Tokyo (Central) Station, 1.4 miles;

and (3) Tokyo (Central) Station to Nishi-Ginza, 0.7 miles. The aggregate cost of the three subsections was yen 7,884 million, or roughly £1,260,000 a mile. Like other lines of the Underground, this one is of 4 ft. 8½ in. gauge. Most of its 6.2 miles in operation are underground, including 8 of the 10 stations, and constructed in shallow cut-and-cover box-section concrete tunnel under various streets. In subsection (1) however there is a length of about a mile through the Koishikawa and Hongo Heights area where the line is mainly above ground level in cutting or on



Teito Rapid Transit underground lines, showing connections with the Japanese National and other Railways



Completed section of box tunnel on the Marunouchi line

bank or viaduct. The other subsections are under densely built-up business and shopping areas, and entirely in tunnel.

Equipment and Safety Measures

The track used consists of 50 kg. per m. rails secured with fastenings, embodying both rubber pads under the rails and rubber sole pads, either to sleepers laid in ballast or, in some lengths, to a concrete bed. The rubber cushioning greatly reduces noise. Electric current for traction is supplied at 600 V. d.c. from sub-stations of the mercury-arc-rectifier type through a third rail. The signalling is automatic 3-aspect colour-light with continuous track circuiting, overlap control circuits and electro-pneumatic train stops. At certain locations on down gradients and at the approach to stations speed control circuits with time-element relays are in operation. The rolling stock at present in service consists of 78 all-steel 59-ft. motor-coaches weighing 35-40 tons and accommodating 140 passengers. Great stress is laid by the administration, the Teito Rapid Transit Authority, on the above and other safety measures provided.

Civil Engineering

The civil engineering work was entrusted to contractors, the initial subsection being divided into 18 lengths for this purpose. The open-air lengths mentioned above, are in residential areas, and on them specially-designed anti-noise concrete walls have been built. Concrete for the tunnel sections and other work was purchased ready-mixed, as this proved to be more economical than site-mixing. The box-section tunnel usually has central columns between the tracks.

Subsection (2) was constructed in eight contract lengths, and the work involved three major works. The first of these was a bridge over the Kanda

River near Ochanomizu, crossed at a skew of about 33 deg. The 147-ton superstructure consists of a single 118-ft. span, of which the through main girders are steel plate girders of box type spaced 36 ft. apart.

The second major work occurs immediately beyond this bridge, where the Underground re-enters tunnel under the Japanese National Railways' Chuo and Subo Lines. The up and down Chuo Line tracks at this point are wide apart and between them runs the Subo Line at a higher level. These lines carry over 1,000 trains a day and, as this traffic had to be kept running over

the Underground tunnelling work, supervision of the whole of this work was placed in the hands of the National Railways engineers. The Underground line passes under the J.N.R. lines on a 15-ch. curve and a 1 in 33 gradient, and the different N.R. levels and proximity of the river further complicated the work. Consequently, 23 well-foundations had to be sunk to a depth of about 33 ft. to carry pre-stressed concrete girders under the J.N.R. lines.

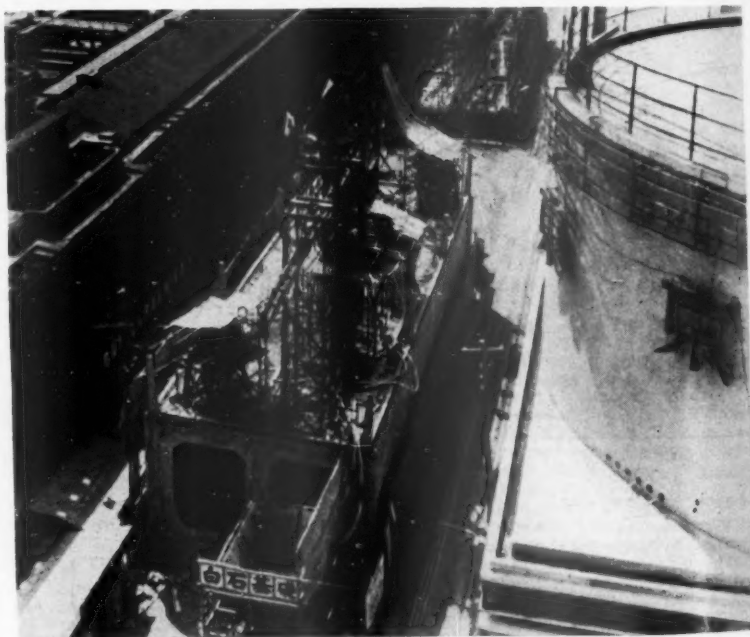
The third work on this sub-section was the tunnelling under the Outer Canal. To prevent obstruction to navigation, a steel sheet-pile cofferdam was constructed, enclosing half the width of the canal at a time, and enabling the tunnel to be built in the dry by the open-cut method.

In the neighbourhood of Tokyo (Central) Station the subsoil was so soft that excavation for the Underground tunnel had to be carried out half-width at a time.

Tokyo Station to Nishi-Ginza

Subsection (3) was divided into six contract lengths, and in it the J.N.R. lines are recrossed. They are the Tokaido, Yamate, and Keihin Lines, and collectively they carry 1,250 trains daily; the work was again supervised by J.N.R. engineers. The tunnel crosses beneath these lines at an angle of about 42 deg.

The quadruple suburban tracks are carried on a brick-arch viaduct and part of this had to be dismantled and replaced by a pre-stressed concrete girder superstructure. The two main-line tracks alongside were laid on a reinforced-concrete continuous girder viaduct. Its piers and their pile foundations had to be removed to make way



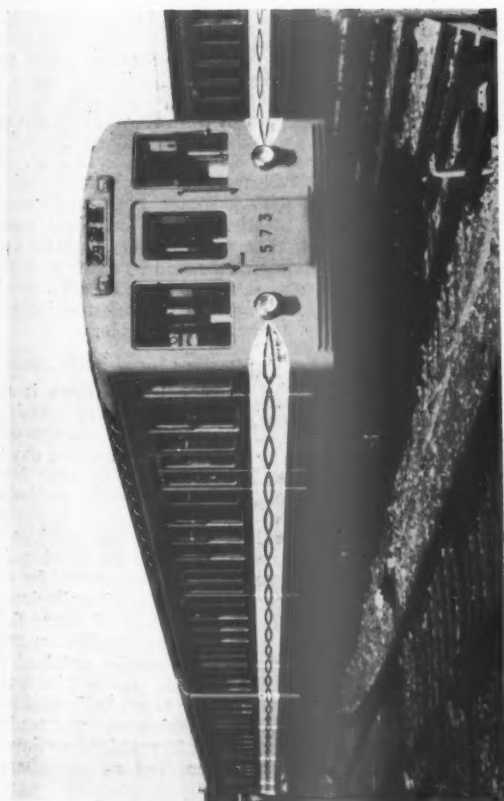
Sinking box tunnel sections for the Marunouchi line by the pneumatic caisson method, showing central columns between the tracks



Interior of vehicle of two-car unit lined with light alloy, showing fluorescent lighting



Underground train passing through Ochanomizu Bridge under National Railways



All-steel twin close-coupled unit recently delivered to Teito Rapid Transit Authority



Island platform at Tokyo Central Station, showing continuous strip lighting

for the tunnel. They were replaced by new piers founded on caissons to support reinforced-concrete capping girders to carry the viaduct, and enable the old substructure to be demolished.

On this subsection the Outer Canal had to be diverted with steel sheet-piling for a second time to provide open-foundations for the tunnel.

Altogether, on this 6.2-mile section of the Marunouchi Line, completed last December, 178,500 cu. m. of ready-mixed concrete, 18,800 tons of steel reinforcement, and 17,800 tons of steel shuttering and other temporary steel-work were used.

In the construction of the succeeding extension from Nishi-Ginza to Shinjuku, due to be opened next April, tunnelling continued to be by the cut-and-cover method as a rule, but in some

places the shield method of excavation had to be used. In one area near the Imperial Hotel, where the soil is particularly soft and buildings are crowded closely together, the box-section tunnel had to be constructed in sections on the surface, and each section was sunk as a pneumatic caisson.

In this 4.3 mile section there are eight stations, the one at Akasaka Mitsuke providing interchange of traffic with the already-open Ginza Line. The platforms are so arranged that interchange passengers have only to cross a platform and not go from one platform to another. Yotsuya is also a transfer station with the National Railways' Chuo Line.

For this extension 62 additional motor-coaches are being built, bringing the total for the whole Marunouchi

Line up to 140. The rush-hour service throughout will be at 2½-min. intervals between four-coach trains each carrying about 560 passengers. Some 180,000 passengers are carried on an average day.

Construction is also in hand of the further extension westwards from Shinjuku to Ogikubo and its branch to Honancho.

The standard of equipment and decor is high on both the Ginza and Marunouchi lines. Many of the island platforms are very wide with handsome colonnades along their centres. Long welded rails are generally used, partly to reduce noise, particularly in tunnels. Some of the latest carriage stock is in the form of twin close-coupled units. The equipment includes mechanical carriage-washing plant.

Battery Rail Traction

Means of increasing user of equipment

By B. J. Prigmore, M.A., M.Sc., A.M.I.E.E.

THE experimental operation by British Railways, Scottish Region, of a battery railcar between Aberdeen and Ballater is encouraging to those who feel that, for branch and short-distance inter-urban services, battery trains might sometimes prove more appropriate in British conditions than diesel, when full electrification is not justified. The Aberdeen Ballater experiment has proved popular with the public.

Data can now be obtained on the costs and efficiency of battery traction. It may be hoped that in consequence a range of traffic density over which battery traction is appropriate will be estimated. Unfortunately, with its two battery-charging stations and one twin railcar, the Ballater scheme may well in itself prove uneconomical because of poor user of the relatively expensive charging stations. Nevertheless, as the costs of the various items can be determined from this experiment, assessment of costs when greater use of equipment is made will become possible.

Use of Charging Stations

With one charging station and two trains, an hourly service on a 10-15-mile route, or a 90-min. service on a 15-25-mile route, could be maintained. This would keep the charging station well occupied in boost-charging the trains as they took turns to occupy the charging berth during their long layovers at the base terminus. By curtailing some of these boost-charges, extra peak-period trains could be operated. As the cost of a charging station for two trains is not much greater than for one, overnight full-charging of the pair of trains at off-peak electricity prices would be economically undertaken. Ability to purchase the larger portion of the traction in this way is one of the more attractive features of battery traction. A much larger scheme could be operated

with about half the trains in use and the other half being boost-charged at any one time during the day; and would be full-charged at night.

In the scheme outlined above, the charging station is fully used, but not the vehicles. To keep the vehicles in operation, and yet release the batteries for boost-charging, some form of detachable battery is necessary. (This approach to the problem is general in coal mines). It is unfortunate that once attempts are also made to use the vehicles to the full, further complication, and hence expense, are necessary. This, however, should be well justified by reducing the number of battery trains needed.

The first possibility is to use rack-mounted "roll-off" batteries: to stop the train at the charging point and change the batteries—mechanised means are available for this—and then to charge the batteries pending their use on another train. This, unfortunately again, means a more complicated train. As it is, the lightweight twin railcar used on the Aberdeen-Ballater service was specially strengthened by British Railways to take the 16 tons of batteries, eight tons on each vehicle; and further modification would be needed for mounting roll-off batteries.

Consideration should thus be given to the use of low-height battery tenders, to be pulled or propelled by the battery trains. The South Indian Railway used this technique for shunting locomotives. Specially strengthened trains would not be required, whilst the extra weight penalty of the tenders, excluding the batteries, would not be large. On arrival of the train at the charging centre the tender would be transferred to the charging point, and a fresh one substituted by a shunting locomotive. Alternatively, a group of platforms and charging tracks could be provided with overhead

conductors or conductor rails, and the trains with appropriate collectors: the trains could then exchange themselves, using the external power supply. To prevent the consequent current peaks being taken from the charging system, the track conductors would be supplied from the battery next to be collected.

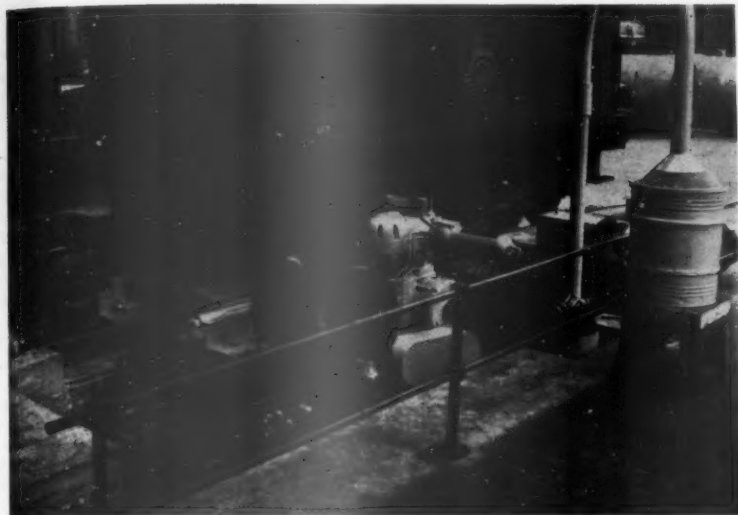
A charging station could act as a base for six twin railcars and nine or ten battery tenders. This could provide hourly services, with a few extra trains at peak hours, to smaller towns and branch-line termini within a range of 10-15 miles, or even 20 miles if intermediate stops were few. These services are somewhat below those for which electrification seems yet customary. The twin railcars could be standard diesel units with a motor bogie and control gear substituted for the diesel equipment. The motors and contactor control equipment could be much as British manufacturers have supplied for certain modern tramcars. British traction batteries are readily available.

Battery Railbus for Branch Lines

At the other extreme, there is the possibility of two or three self-contained battery railbuses based on one charging station, providing a few trains a day to points as far as 25-30 miles away from the base. The vehicles would be similar to diesel railbuses, with a trolleybus compound motor of 120 h.p. and its control gear substituted for the diesel equipment. Such a motor, but wound for 400 V. rather than the 500 of trolleybuses, and with a wide range of shunt field control, with standard trolleybus control equipment, is readily obtained in Britain. By affording regenerative braking, useful down to about half-speed and for checking the vehicle on down grades, such a motor would enable a maximum distance to be covered on one charge of the battery.

Rail-Level Tyre Reconditioning Machine

*Re-profiling without removal of wheelsets
from locomotives or rolling stock*



Wheel turning machine on test. Automatic swarf removal container on right

metre, 3-ft. 6-in., 4-ft. 8½-in., 5-ft. 3-in. and 5-ft. 6-in. gauges. Wheel dia. between 28 in. and 54 in. can be accommodated and any required form of profile reconditioned.

The machine operates as a milling machine. A feature of this is that even with tyre steel of up to 75 tons/sq. in. tensile, light cuts can be taken. This is an advantage, compared with conventional single point turning where it is frequently found that heavy cuts are necessary, and excessive material removed, in order to get under local hard spots.

Retraction as Required

The machine is installed below floor level in a pit at a through line in the depot, and the wheel flange and tread of any type of rolling stock is reconditioned without removal from the vehicle. When not in use the machine is retracted below ground, allowing the use of a through road over the pit.

Supported on pillars in the pit is a beam carrying retractable rails. These rails form a bridge for moving the vehicle into position on the machine. Also carried on the beam are a pair of stop rollers and a pair of drive rollers. When the wheelset which is to be reconditioned is cradled between the two sets of rollers, the drive rollers are lifted hydraulically and the rails retracted, leaving a gap below the tyre through which the cutters operate.

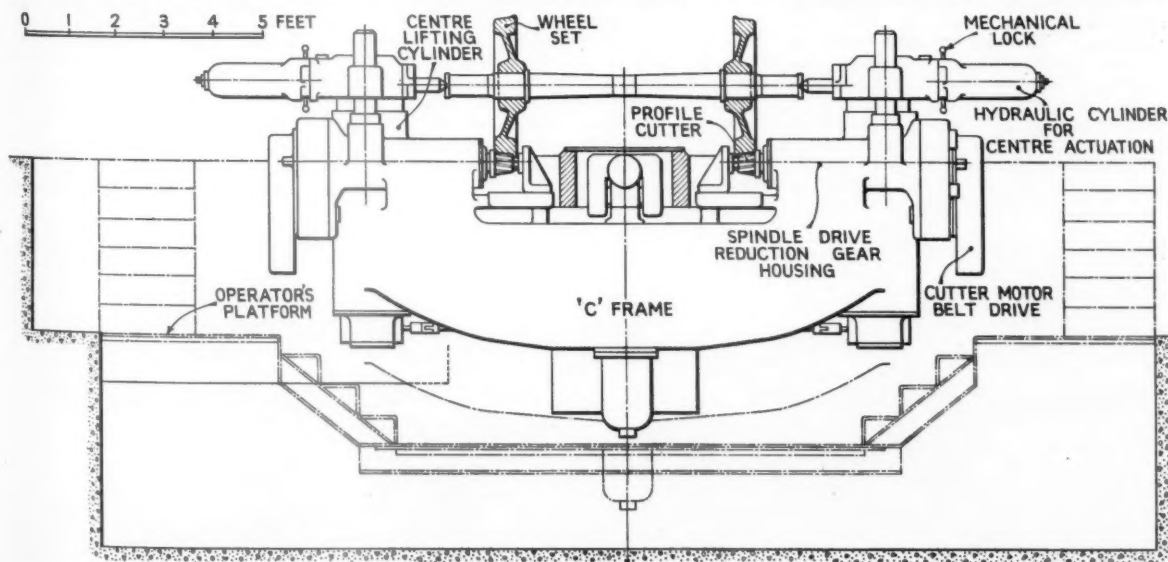
The 8½-in. dia. drive rollers are driven by a 2-h.p. electric motor through reduction gearing; this friction drive to the flange of the tyre gives a feed rate past the revolving cutters of

SEVERAL Atlas standard wheel profile truing machines have been ordered by British Railways for maintenance depots; by the use of these tyres may be reconditioned quickly *in situ*, without the need for any dismantling work on the vehicle.

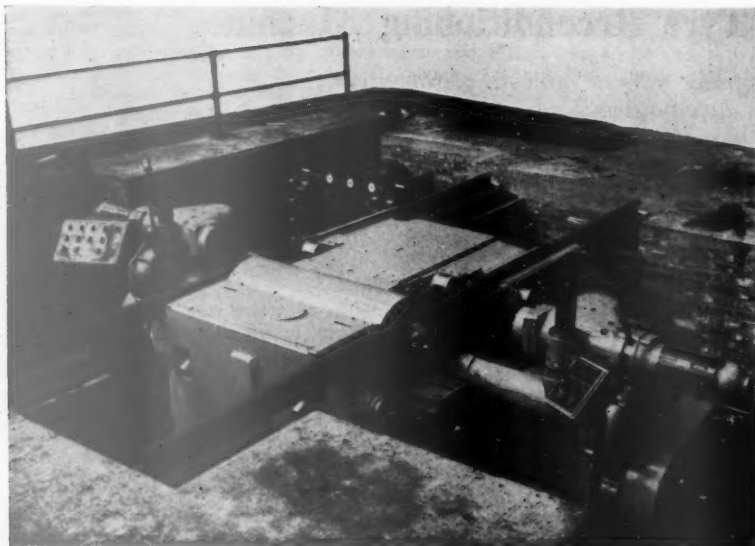
These machines are being built by the North British Locomotive Co. Ltd. for the Atlas Engineering Company, which latter holds an exclusive manufacturing licence from the patentees, the Standard Railway Equipment & Manufacturing Company, of Chicago,

U.S.A. The machine illustrated is being installed in the new motive power depot at Crewe, and further machines have been ordered for the Southern, Eastern, and North Eastern Regions, of British Railways, and also for Ceylon and Iran. A recent delivery was made to the Commonwealth Government Railways of Australia.

The British-built machine is basically similar to the American model described in *The Railway Gazette* of June 3, 1955, modified to incorporate British Standard threads, and to cover



Section through pit, showing machine in operating position



Machine retracted into pit, allowing through road: control panel on left

approximately 6½ in. per min. Provision is also made for feed rates of 4.3, 8.6, and 13 in. per min. A certain minimum axleload is required to avoid chatter and in cases where the vehicle weight is below this, a hydraulically-powered holding-down attachment is used to give the additional pressure.

The cutter heads, drive gear, and auxiliary equipment is carried on a C-frame suspended from the main beam. This frame also carries two centres which are hydraulically engaged with the axle centres and then mechanically locked. The vertical movements of the complete C-frame and supporting pillars for the two centres are performed hydraulically by a fluid motor driving through a worm reduction gear. Elevation of the C-frame and centre supports is controlled by hydraulic clutches. The frame may also be moved horizontally to position the cutters. The centres ensure concentricity of machining, and by the use of vernier settings each wheel is machined to exactly the same dia. Each cutter is belt-driven at 106 r.p.m. by a 25-h.p. electric motor, driving through a reduction gear in the spindle assembly.

Power for the hydraulic units is supplied by a pump driven by a 15-h.p. motor. An 80-gal. oil reservoir is incorporated. The hydraulic equipment is supplied by Stein Atkinson Vickers Hydraulics Limited and electric motors by English Electric Co. Ltd.

Profile Milling Cutters

The profile cutters, which operate on the climbing miller principle, are of a special inserted tooth form designed for long life and good surface finish. They are made exclusively by Firth-Brown Tools Limited for Atlas Engineering Company. The steel body of the cutter, which is formed to the required tyre profile, is fitted with 10 equally spaced blades set at an angle in the body.

Each blade carries 11 cylindrical Atlas Mitia carbide cutting inserts. These inserts are reversible and may also be rotated in the blade. By using both ends and indexing the inserts ⅙th of a turn, 32 new cutting edges are available from one set of inserts. Cutter life is dependent upon the depth of cut and the tyre hardness. An average figure claimed for E-class steel is 130 pairs of wheels, with

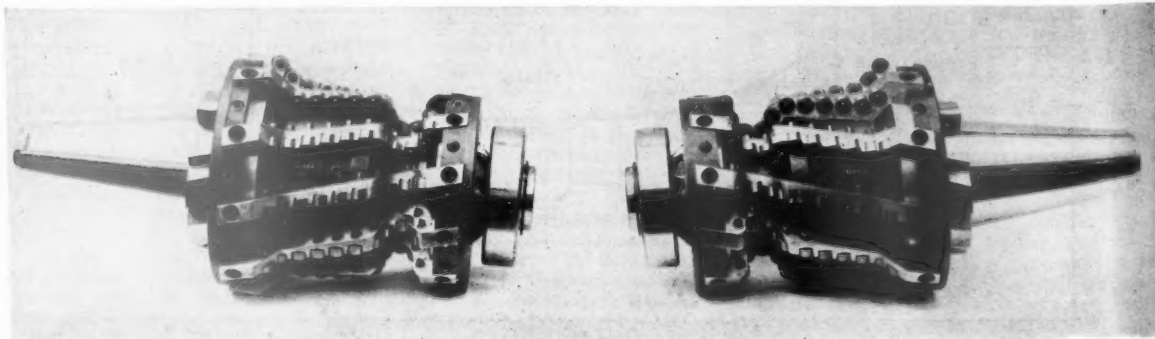
a proportionate increase on lower grade steels. The carbide inserts are suitable for steel up to approximately 600 Brinell hardness.

The maximum depth of cut is in the order of 0.35 in. at the flange, 0.170 in. at the flange throat, and 0.19 in. on the tread. It is normally found that one cut is sufficient to recondition each tyre. When cutters and centres are withdrawn as each wheelset is finished, the sliding rails are replaced and the vehicle winched along to bring the next axle into position.

No slurry is used and the swarf is collected in a chute and automatically conveyed by a blower fan to a container at the side of the pit. The machine is operated from a push-button control panel positioned to ensure a good view of the cutters. On the opposite side of the machine is an auxiliary panel for the centring control and emergency stop switches. The control equipment is supplied by Edward Holme & Co. (1931) Ltd., Altrincham.

The weight of the machine, 25 tons, is stated to contribute largely to the good tyre finish and absence of chatter. The set-up time, from moving the vehicle on the machine to setting the depth of cut, is approximately 8 min., and, it is claimed, a four-wheel vehicle can be completed in 1-1½ hr. No stripping of brake gear or other equipment is necessary. Since the introduction of this machine on American railway systems in 1953, 40 machines have been installed. They are used for roughly one-third of their total working time on motive power units and two-thirds on rolling stock.

NEW TURNTABLE FOR WILLESDEN LOCOMOTIVE DEPOT.—A 70-ft. turntable is being installed by British Railways, London Midland Region, at Willesden Locomotive Depot. Installation is expected to be completed by the end of December. When the Willesden depot is made over to electric locomotives in 1968, on completion of the Euston-Rugby stage of main-line electrification, the turntable will probably be used as a replacement at a depot at which steam working is to remain. The contractors are John Boyd & Co. (Engineers) Ltd., of Annan. The new turntable replaces one of similar size built in 1928 and now life-expired.



Pair of profile cutters, showing carbide inserts

RAILWAY NEWS SECTION

PERSONAL

Mr. F. J. Lane, of Messrs. Preece, Cardew & Rider, has been appointed a member of the British Transport Commission's Panel of Consulting Engineers. The other members, listed in our December 14, 1956, issue, have been re-appointed.

Mr. W. H. F. Mepsted, Chief Commercial Manager, Southern Region, British

intendent, Southampton, in 1942 and, while holding this appointment, was a member of the Poole Harbour Commission and the Southampton Port Emergency Committee. He was appointed Assistant to the Commercial Superintendent in October, 1943, and became Assistant Commercial Superintendent three months later. In March, 1949, he was appointed Commercial Superintendent, Southern Region, which

Lord Williams has been re-appointed as a Part-Time Member of the London Transport Executive for a further three years from October 1.

Mr. A. J. Ball, O.B.E., Chief Mechanical Engineer, Malayan Railway, who, as recorded in our June 20 issue, has retired, commenced his railway career in the Derby workshops of the former L.M.S. Railway. In 1928 he joined the Mechan-



Mr. W. H. F. Mepsted

Appointed Chief Development Officer,
Southern Region



Mr. A. J. Ball

Chief Mechanical Engineer, Malayan Railway,
from 1954 to 1958

Railways, who, as recorded in our August 15 issue, has been appointed Chief Development Officer, Southern Region, joined the South Eastern & Chatham Railway at Deal in 1912. After gaining general experience at stations, Mr. Mepsted joined the staff of the Eastern District Traffic Superintendent, Ashford, Kent, early in 1914. He served overseas with the Railway Operating Division, R.E., from 1916 to 1919. On his return to the railway, he undertook various specialised duties, including control of seasonal hop-picking and holiday passenger traffic arrangements. Following grouping, Mr. Mepsted joined the staff of the Southern Divisional Operating Superintendent at Brighton in 1924. In 1925, he was appointed Assistant Stationmaster, Victoria, and became Senior Assistant Stationmaster there in 1928. He was made Stationmaster, Charing Cross, in 1933, and Assistant Divisional Superintendent, London East, in 1936. He became Southern Divisional Super-

position was subsequently re-designated Chief Commercial Manager. Before nationalisation, and since, he has served on various inter-company and inter-regional conferences and committees on commercial subjects. He is a member of the South Eastern Area Transport Users' Consultative Committee and a director of each of the following bus companies:—East Kent Road Car Co. Ltd., Maidstone & District Motor Services Limited, Southdown Motor Services Limited, Aldershot & District Traction Co. Ltd., Devon General Omnibus & Touring Co. Ltd., Hants & Dorset Motor Services Limited, and Wilts & Dorset Motor Services Ltd.

Mr. O. V. S. Bulleid, who has recently retired as Chief Mechanical Engineer Coras Iompair Eireann, and was formerly Chief Mechanical Engineer Southern Region, British Railways, has accepted an invitation by a firm of consulting engineers to undertake certain consulting work on their behalf.

ical Engineering Department of the Buenos Aires Great Southern Railway, where he spent most of his time in the workshops at Bahia Blanca and Remedios de Escalada. In 1940 he joined the army and served in India and Burma, retiring in 1946 with the rank of Lieutenant-Colonel. He was awarded the O.B.E. for gallantry in Burma in 1945. Mr. Ball became a mechanical engineer on the Malayan Railway in 1946 and was made Works Manager, Sentul Works, in 1951. He was appointed as Chief Mechanical Engineer, Malayan Railway, on January 1, 1954. During the past 12 years he has been closely connected with the rebuilding of the Malayan Railway Workshops, after the allied bombing in 1945. Mr. Ball has also been responsible for the introduction of diesel-electric locomotives and diesel railcars. Other work in hand included construction of a new wagon shop at Sentul Works. This will cater for future production of all Malayan wagon stock.



Mr. R. E. Lawler

District Commercial Officer, Ipswich, Eastern Region, who has retired



Mr. T. G. Eato

Appointed District Commercial Officer, Ipswich, Eastern Region



The late Mr. A. E. Roberts

Formerly Technical Representative, Transport Brakes Limited

Mr. R. E. Lawler, District Commercial Officer, Ipswich, who, as recorded in our issue of August 29, has retired, was educated at Denstone and Dublin University. During the 1914-18 war he was commissioned in the Royal Munster Fusiliers, served at Gallipoli and was wounded in 1915. He was afterwards attached to the Railway Transport Staff, Irish Command, and served as R.T.O. Cork from 1917 to 1919. He joined the General Manager's Office, Great Eastern Railway in February 1919 and was appointed Assistant District Goods & Passenger Manager, Ipswich, in 1928. From 1940 to 1944 he was seconded for Home Guard liaison duties in London and for a period commanded the 17th City of London (L.N.E.R.) and 33rd Middlesex (L.N.E.R.) Battalions, Home Guard. He returned to Ipswich in 1944 as District Goods & Passenger Manager and was appointed District Commercial Officer on January 1, this year.

Mr. L. M. Sayers, Assistant General Manager (Administration), North Eastern Region, British Railways, York, has been appointed a member of the Transport Users' Consultative Committee for the North Eastern Area. He succeeds Mr. A. R. Dunbar, who has been transferred to British Transport Commission Headquarters.

Mr. Dudley Pexton, Marketing Director, South Western Division, National Coal Board, has been appointed a member of the Transport Users' Consultative Committee for Wales & Monmouthshire. He succeeds Mr. Edgar Davies, who has resigned owing to ill health.

Mr. H. E. Gorick, General Manager, Chamber of Shipping of the United Kingdom, has been elected to the Council of the Institute of Transport in the place of Mr. A. S. C. Hulton, who becomes a Vice-President.

Mr. E. J. Mounes, Finance Manager, Illinois Central Railroad, has been appointed Foreign Freight Agent, New Orleans; he succeeds the late Mr. P. H. Wunder.

Mr. T. G. Eato, Assistant District Commercial Superintendent (General), Hull, Eastern Region, British Railways, who, as recorded in our August 29 issue, has been appointed District Commercial Officer, Ipswich, under the Traffic Manager, Norwich, joined the London & North Eastern Railway in 1926 at Bulwell Forest. After a period at stations in the Sheffield District, Mr. Eato was transferred, in 1936, to the staff of the Goods Manager, Liverpool Street, on special enquiries and staff work. From 1942 to 1946 he served with the Royal Engineers (Movement Control) in North Africa and Italy, and was demobilised with the rank of Captain. In 1946 he became Chief Clerk in the District Mineral Agent's Office, King's Cross, and in the following year was appointed Chief Staff Clerk to the London City Manager and the District Passenger Manager, Liverpool Street. He became Assistant (General) to the District Goods Superintendent (London City) in 1953 and was appointed Acting Assistant District Goods Manager (London City) in 1954. In 1955 Mr. Eato transferred to the position of Assistant District Commercial Superintendent (General), Hull.

We regret to record the death, on September 18, of Mr. A. J. Grinling, A.M.I.C.E., formerly District Engineer, Peterborough, London & North Eastern Railway. The younger son of a former District Engineer, Derby, Great Northern Railway, he was educated at Derby Grammar School and University College, Nottingham. In 1904 he became a pupil of the late Mr. Ross, Chief Engineer, G.N.R. Mr. Grinling then joined the staff of the Engineer's department, Kings Cross. He went to Peterborough in 1912 as Assistant District Engineer, Great Northern Railway and, in 1925, was appointed District Engineer, Peterborough, L.N.E.R. He retired in November, 1947.

Mr. A. C. Brooks, Sales Director, M. & W. Grazebrook Limited, is retiring, for reasons of ill health, from active control of management. He will be succeeded by Mr. J. Trevor-Jones. Mr. Brooks will remain a director and be available as a consultant.

Mr. A. E. Roberts, Technical Railway Representative, Transport Brakes Limited, and former Rolling Stock Engineer, Southern Region British Railways, whose death was recorded in our October 3 issue, was born in 1883. He was apprenticed to Clay Bros. & Co. Ltd., Cardiff, from 1897 to 1900, and then served for a year on the staff of the British Thomson-Houston Co. Ltd. In 1901 he joined the British Westinghouse Electric & Manufacturing Co. Ltd., and was associated with the equipment of tramways and of rolling stock for the Metropolitan Railway. Five years later, Mr. Roberts joined the Metropolitan Railway and was in charge of electric rolling stock and locomotives. He entered the service of the London & South Western Railway in 1913 as Repair Shop Engineer at Durnford Road, and in 1925 was appointed Rolling Stock Engineer on the staff of the Electrical Engineer, Southern Railway. He held this appointment on the formation of the Southern Region until his retirement in 1948. Mr. Roberts joined Transport Brakes Limited in 1952.

Eng. Carlos A. Luppi, Administrator General of the Domigo Faustino Sarmiento Railway (formerly the Buenos Ayres Western) and the General San Martin Railway (formerly the Buenos Ayres & Pacific), Argentina, has resigned. Eng. Miguel Sanguinetti has been appointed Administrator of the D. F. Sarmiento Railway and Dr. P. S. Daneri, Administrator of the General San Martin Railway.

Mr. Paul R. Blanchet, Assistant to the General Manager, Real Estate, Montreal, Canadian National Railways has been appointed Regional Manager, Real Estate, Winnipeg, Manitoba. He succeeds Mr. G. G. Bird, who has retired.

Mr. F. D. Greene, Superintendent of Train Services, Victorian Government Railways, has retired after more than 50 years' service. He is succeeded by Mr. H. Levey.

Mr. R. E. Clarke has been appointed Chief Engineer of Cowans, Sheldon & Co. Ltd.

Mr. A. T. Gosden, Regional Pensions Officer, London Midland Region, British Railways, has retired. He is succeeded by Mr. C. L. Jolliffe, Chief Clerk to the Pensions Officer.

The British Transport Commission announces the following appointments:—
Office of Design Officer

Mr. J. Bloomfield, Assistant (Administration), as Assistant to Design Officer.
Services of the Commission

Mr. E. M. Eustace, Head of Section (Metals), Supplies Department, as Assistant (Metals).

Mr. A. E. Smith, Head of Section (Timber), Supplies Department, as Assistant (Timber).

Mr. J. W. Hill, Head of Section (Textiles & Clothing) Supplies Section, as Assistant (General).

British Railways Central Staff

Dr. H. I. Andrews, General Assistant (Electrical Engineering Department), as Assistant Electric Traction Engineer (Research).

Mr. M. R. Lubbock and Mr. A. S. Clegg have been appointed to the board of the Peruvian Transport Purchasing Co. Ltd.

Mr. Leonard Baker has been appointed Deputy Managing Director of the Coventry Gauge & Tool Co. Ltd. He is relinquishing his directorship of Hamworthy Engineering Limited.

Mr. M. N. Bery, Joint Director, Civil Engineering, Railway Board of India, has been appointed Director, Civil Engineering, Railway Board.

Mr. A. B. B. Valentine, a member of the British Transport Commission, has been nominated by the Commission to the Coastal Shipping Advisory Committee. He succeeds Sir J. C. Landale Train, who has retired.

Mr. A. P. H. Pehrson, Executive Director in charge of Export Sales, Simmonds Aerocessories Limited and Firth Cleveland Instruments Limited, is making a sales visit to Italy and France. Mr. W. H. Dothie, Assistant Export Sales Manager, Simmonds Aerocessories Limited, is travelling to Ireland with Mr. R. Goodburn, the Surform Export Sales Manager. Mr. Dothie will go to Germany and Austria later.

Mr. Harry Green, Director & Chief Engineer, Metropolitan-Cammell Carriage & Wagon Co. Ltd., has retired and has relinquished his seat on the board. Mr. D. J. C. Robertson, a Director of the company, is appointed General Manager. Mr. J. L. R. Barnes and Mr. C. J. E. Large are appointed as Chief Engineer, Carriages & Wagons, and Chief Engineer, Railcars, respectively. Mr. Barnes is also appointed a Special Director.

Viscount Falmouth has been re-elected President of the British Internal Combustion Engine Research Association. Sir Harold Roxbee Cox, Mr. H. N. Pemberton, Professor O. A. Saunders, and Brigadier S. A. Stewart have been re-elected Vice-Presidents. Rear-Admiral W. F. B. Lane has also been elected as a Vice-President. Mr. G. B. R. Feilden and Mr. V. H. Hopkins have been elected to the Council in succession to Mr. G. W. Bone and Mr. A. C. Yeates, who retired by rotation. The Council has elected Mr. B. D. Giordan as its Chairman, and Mr. Hopkins as its Vice-Chairman.

Mr. E. Rendall, Sales Manager, Scottish Oils & Shell-Mex Limited, has been appointed Manager of the North-Eastern Division of Shell-Mex & B.P. Limited. He succeeds Mr. J. A. Higham, who has retired.

Mr. Eric Holt has been appointed Controller of Finance, of the Dunlop group of companies. He will be succeeded in his former appointment as Group Chief Accountant by Mr. G. P. Slater, Chief Accountant, Fort Dunlop, Birmingham.

Mr. "Dick" Broom has been elected Chairman of Broom & Wade Limited, in succession to the late Mr. Harry S. Broom. Mr. C. Broom Smith has been elected Deputy Chairman. Both remain Joint Managing Directors.

Mr. C. H. Davis, F.I.A.S., Surveyor, Thos. Cook & Son Ltd. since 1920, is retiring. Mr. Davis, who is 65, was articulated to a firm of architects and surveyors in 1908. After holding appointments in different parts of England, he joined the Third Army Railway Survey & Reconnaissance Section in 1914. In 1920 he was appointed Surveyor & Estate Manager, Thos. Cook & Son Ltd., and became responsible for the company's property throughout the world. During the past few years Mr. Davis primarily has been occupied with an extensive constructional programme. The largest single undertaking of this was the addition of two new floors to the company's building in Berkeley Street, London, now housing 2,500 employees. He also was responsible, in conjunction with the architects, for the re-modelling of the interior of the Cook's Paris office, and the reconstruction of the Pall Mall office in London.

The Hawker Siddeley Group announces that it has decided to integrate the activities of its subsidiary, the Brush Group, with those of the parent organisation. This involves the board of the Brush Group ceasing to be an executive body. All the directors of the Brush Group, with the exception of Sir Roy Robson, Mr. J. F. Robertson, and Mr. P. C. Sharp, have resigned. Mr. G. C. R. Eley, former Chairman of the Brush Group, remains a director of the Hawker Siddeley Group. Sir Harold Roxbee Cox is leaving the company. Mr. Ian T. Morrow has ceased to be Managing Director of the Brush Group, and has left the service of the company. Sir George Briggs has been given full executive responsibility for the operations of the Brush diesel engine companies: Mirrlees Bickerton & Day Limited, the National Gas & Oil Engine Co. Ltd., J. & H. McLaren Limited, Petters Limited, and Bryce Berger Limited. Mr. Arthur H. Frampton, who is associated with A. V. Roe (Canada) Limited in an industrial consulting capacity, has been temporarily appointed with full executive responsibility for the Brush Electrical Engineering Co. Ltd. and Fuller Electric Limited. Mr. D. S. A. E. Jessop (Personnel Director), Mr. C. F. Barnard (Heavy Engine Division), Mr. Michael Clear (Export Sales) and Mr. J. Calderwood (Technical Director), although ceasing to be directors of the Brush Group, will continue to act in their respective capacities. Mr. Maurice Tattersfield has also resigned his directorship of the Brush Group, having accepted an outside appointment. The Brush Group factories will continue to operate and sell their own products under their own names.

We regret to record the death, in New York, on September 24, of Mr. P. B. Niles, a Vice-President & Director of the Yale & Towne Manufacturing Company.

Mr. R. F. Hatto, Sales Director of Wolf Electric Tools Limited, has retired, after 45 years with the company.

The Institution of Civil Engineers announce the following transfers and admissions:—

Graduates to Associate Members

Mr. P. F. Bradbeer, Sir William Halcrow & Partners.

Mr. P. Samuel, Sir Alexander Gibb & Partners (Africa).

INSTITUTION OF LOCOMOTIVE ENGINEERS

In addition to the names listed in our issue of September 26, we record below a further list of names that have been added to the Institution's registers of members:—
Graduates

Mr. F. Beard, Diesel Traction Engineer, Crossley Brothers Limited.

Mr. E. A. Brown, Supernumerary Shop Foreman, Owen & Dyson Limited.

Mr. M. J. Conway, Technical Assistant, Modernisation Section, Derby, London Midland Region, British Railways.

Mr. W. A. Davies, Draughtsman, W. G. Bagnall Limited.

Mr. F. P. Fass, Junior Engineer, Traction Projects Engineering, Metropolitan-Vickers Electrical Co. Ltd.

Mr. A. R. Grant, Technical Assistant to Technical Director, Yorkshire Engine Co. Ltd.

Mr. T. D. Hall, Graduate Engineer, Electric Traction, London Bridge, Southern Region, British Railways.

Mr. T. C. Healey, Draughtsman, Birmingham Railway Carriage & Wagon Co. Ltd.

Mr. P. D. Ivin, Senior Draughtsman, Derby, London Midland Region, British Railways.

Mr. I. Le May, Research Assistant, Steam Power Section, Glasgow University.

Mr. R. W. Middlemass, Graduate Apprentice, Doncaster, North Eastern Region, British Railways.

Mr. C. J. Mills, Technical Assistant, Eastern Region, British Railways.

Mr. A. R. Mockridge, Assistant Running & Maintenance Officer, Newton Abbot, Western Region, British Railways.

Mr. T. G. Nair, Inspector, Tata Locomotive & Engineering Co. Ltd., India.

Mr. J. A. Paterson, Draughtsman, Electric Traction Section, British Railways.

Mr. B. W. Towell, Commercial Engineer, Traction Department, British Thomson-Houston Co. Ltd.

Mr. M. J. Watson, Technical Assistant, North Eastern Region, British Railways.

Students

Mr. J. M. Esmarch, Draughtsman, English Electric Co. Ltd.

Mr. C. A. Heath, Apprentice Mechanical Fitter, Acton Works, London Transport Executive.

Associate Member to Member

Mr. J. D. B. Carmichael, Works Manager, Bow, Eastern Region, British Railways.

Mr. W. H. Dixon, Engineer, J. Stone & Co. (Deptford) Ltd.

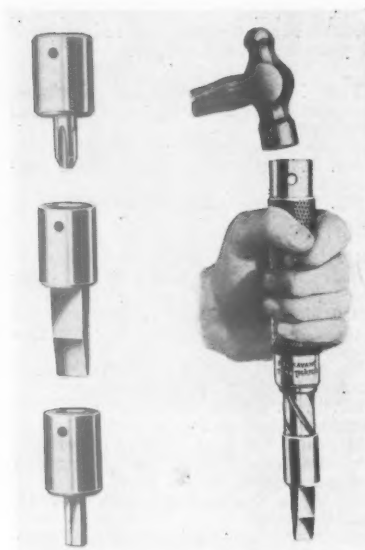
Mr. W. Haresign, Works Manager, Clinetown, Sierra Leone Railway.

Graduate to Associate Member

Mr. K. K. Berry, District Mechanical Engineer, Adra, South Eastern Railway, India.

Mr. A. R. Pocklington, Scientific Officer, Research Department, Derby, British Railways.

NEW EQUIPMENT AND PROCESSES



Booster Screwdrivers

SINCE the introduction of the Apkaway No. 278 Booster screwdriver kit, the manufacturer has received requests from the trade for additional attachments. The range has now been enlarged. Screwdriver kit 278 for releasing stubborn screws, cap screws, and so on, includes one screwdriver adaptor, two Phillips adaptors Nos. 3 and 4, and an extension piece. All adaptors suit $\frac{1}{2}$ -in. square drive.

Screwdriver kit 278A for tightening screwed items is of particular interest to engineers for work on jigs and fixtures. Attachments are as in 278 kit. It is pointed out that present users of the 278 Booster can purchase the 278A Screwdriver less attachments.

Adaptors may be purchased separately

and the following types, all made to suit $\frac{1}{2}$ -in. square drive are available:—Phillips adaptors Nos. 2, 3, and 4; Allen Key Adaptors for cap screws, $\frac{3}{8}$ in., $\frac{1}{2}$ in., $\frac{5}{8}$ in., $\frac{3}{4}$ in., and $\frac{1}{2}$ in.; and screwdriver adaptor, $\frac{1}{2}$ -in. blade.

The accompanying illustration shows the No. 278A screwdriver and attachments. The price of both Nos. 278 and 278A screwdriver kits is £3 10s. each. Further details may be obtained from the manufacturer, J. W. Pickavant & Co. Ltd., Apkaway Works, Bow Street, Birmingham, 1.

Portable Air Compressor

A SINGLE-TOOL portable air compressor, the model 72P, uses the same engine and compressor combination as the Hymatic Hydrovane 98P100, which gives a free air delivery of 72 cu. ft. per min. at 100 lb. per sq. in., enough to operate a full-size concrete breaker.

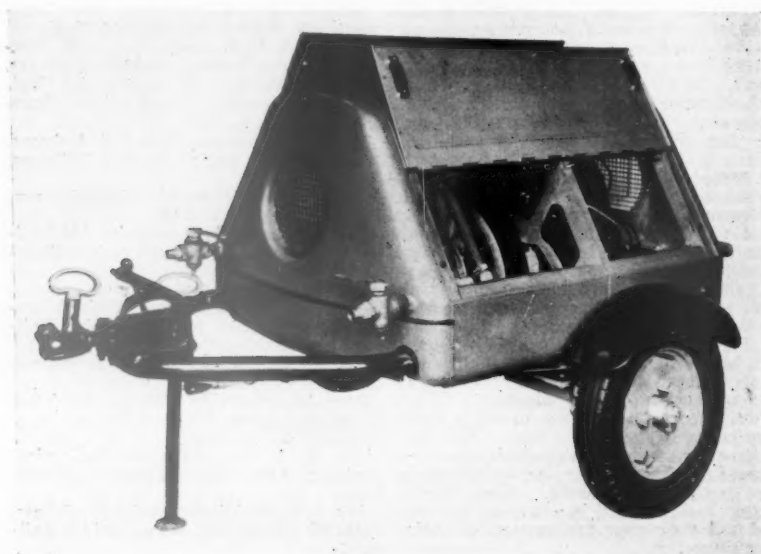
The chassis of the 72P is of tubular steel, with a streamlined aluminium and steel canopy. The mudguards are glass fibre mouldings designed for maximum resistance to damage.

Independent suspension and a low centre of gravity facilitate easy handling and it is suitable for high-speed towing by any vehicle. Over-run brakes with a hand parking lever are fitted.

Both the Hydrovane compressor unit and the four-cylinder Volkswagen petrol engine are air cooled and suitable for operation in any climate. Extensive trials have been carried out with pre-production units in many countries overseas.

The complete unit is designed for easy operation, even by unskilled labour. It is stated to be economical to run, because the engine is fitted with an automatic control to vary the running speed according to output required, in addition to a continuously variable unloader-control.

The 72P is designed to appeal particularly to transport undertakings which need a single-tool compressor which can easily be taken from job to job or moved by hand as work progresses.

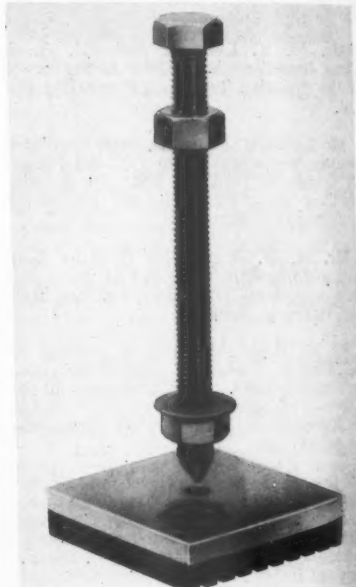


Further details, including price and delivery information, may be obtained from the manufacturers, Hymatic Engineering Co. Ltd., Redditch, Worcs.

Machining Levelling Mounts

LEVELLING devices for machine tool mountings, known as Vulcascot Level-Mounts, are now available. It is claimed that they ease machine installation because they do away with the drilling of floors for anchoring bolts, and with laborious packing up and shimming.

The base plate of the Level-Mount incorporates a ribbed anti-vibration pad made from oil-resistant rubber which grips the floor. A robust set-screw held



upright by the machine foot, bears down on the steel face of the rubber-bonded baseplate. The levelling nut on the set-screw makes for easy and accurate levelling.

The mounts result in time-saving on machine installation, or re-location. Shop layouts can be changed with a minimum of loss of production time, floors are not marred, and precise levelling of machinery is assured.

Only the anti-vibration pad, is in contact with the floor. A great deal of the noise, shock and vibration is absorbed by the pads. The devices are claimed to reduce nervous strain on workers and structural damage to floors and buildings caused by vibration. The anti-vibration pads are obtainable as rubber-moulded mats as well as in the form of Level-Mounts.

The base plate of the Level-Mount is placed under the foot of the machine, the bolt inserted from above through-hole in the foot; the levelling nut is screwed on from underneath. The screw is then adjusted so that the machine is level and then all locking nuts are tightened.

The Level-Mounts are manufactured by Vulcascot (Great Britain) Limited, 87-89, Abbey Road, London, N.W.8.

Seventeenth International Railway Congress

Delegates of 114 railway administrations meet in Madrid

The formal opening ceremony of the seventeenth session of the International Railway Congress Association took place in Madrid on September 29. It was the second occasion on which the Congress had met in Spain, the first being the eleventh session, in May, 1930. The 520 delegates, representing 114 railway administrations throughout the world, were welcomed by General D. J. Vigon, Minister of Public Works and Vice-President of Honour of the Spanish Local Organising Committee. He said that the Spanish railways were not as yet in the condition which the administration desired and which indeed was essential to the national economy, but great efforts were being made to achieve this end and delegates would be able to see some of the steps which were being taken.

M. de Vos, President of the Permanent Commission, who replied, recalled that M. Boyaux, General Manager of the S.N.C.F., had said that railways solved many of the problems of intensive transport, and if they had not existed already, they would have had to be invented to cope with modern transport conditions and needs. It was common practice, when the roads were frozen and the inland waterways were icebound, to call to the rescue the railways which had to carry, in addition to the normal users, those who usually did not use it. The railway remained the safest means of land transport, the most regular and powerful one, and also the fastest between large centres as well as the most comfortable when modern equipment was used.

Señor D. A. Plana, Under-Secretary of State at the Ministry of Public Works and President of the session, extended a cordial welcome to the delegates, and said that



Sir Gilmour Jenkins, Permanent Secretary, Ministry of Transport & Civil Aviation, with Sir John Benstead, Deputy Chairman of the British Transport Commission, and Dr. H. Gschwind, President of the Swiss Federal Railways

the long-existing link of close co-operation between the Spanish Railways and the International Railway Congress Association was being renewed and strengthened. Each session of the Congress was a milestone on the evolution of the technique and economy of railway transport. He believed that the railway was capable of surviving in the modern world where all techniques progressed at startling speed.

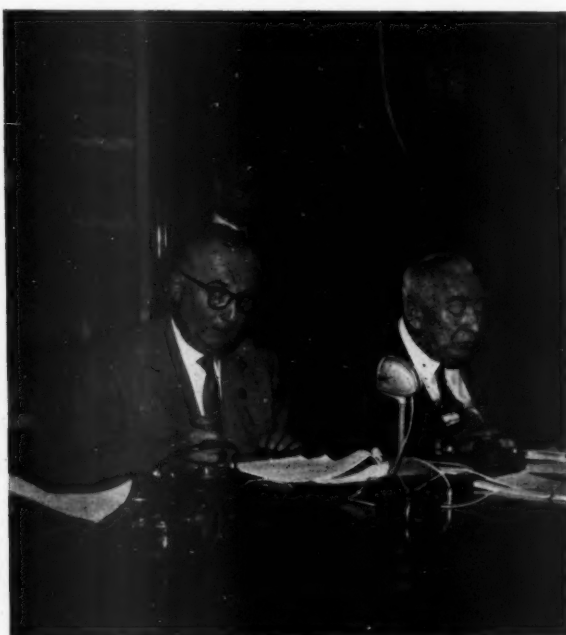
He was convinced of the flexibility of the railway to adapt itself to circumstances by taking advantage of these new techniques.

Improvements Scheme for R.E.N.F.E.

The Spanish railway system was not perfect, but its improvement was recognised as necessary and urgent. The railway network had some special features of very difficult layout and had suffered because



General D. J. Vigon at the opening ceremony; on his right is Señor J. M. Garcia-Lomas, Vice-President of the Spanish National Railways Executive Committee



Monsieur M. de Vos, Director General of the Belgian National Railways, with Monsieur P. Ghilain, General Secretary of the International Railway Congress Association



Mr. D. Stewart, Traffic Manager, Coras Iompair Eireann, with Mr. David Blee, General Manager, British Railways, London Midland Region, and Mrs. Blee

of unhappy circumstances. The scheme which was now being operated for the improvement of the railway system had as its basic ideas a complete improvement of all track, the electrification of entire lines, including almost all the trunk lines. This, coupled with great basic improvements in equipment, gave promise of a bright future.

The Minister of Public Works then formally declared the session open.

An official Government Reception to delegates was held at the National Palace during the evening.

On Tuesday, September 30, delegates visited works in progress on the railway connections in Madrid, including the North-South railway link which has been built beneath the main thoroughfares of the city, and which includes the Ministerios underground station, which is now practically finished. This station is formed of twin vaults, each 65 ft. in span and 350 yd. in length. There is provision for four tracks and two platforms each 20 ft. wide.

In the evening the Mayor and Corporation of Madrid held a reception in the Cecilio Rodriguez Gardens in the Retiro Park, during which there was a recital of Spanish folk songs and dances.

Official Banquet

The official banquet given by the Local Organising Committee was held on Friday, October 3, in the hall of the School of Stomatology in the University City.

Señor D. A. Plana, welcoming the guests, quoted the Spanish proverb, "Once a railwayman, always a railwayman"; that was to say, whoever knew the railway, devoted himself to it. Non-railwaymen might envy the atmosphere of amity and close understanding between the representatives of so many nations who were concerned only with serving mankind. Señor Plana praised the work of railwaymen who were linking up the countries of the world with passenger and goods services. He also stressed the importance of the study by the Congress of technical railway questions, and that of the conclusions reached. He proposed the toast of the International Railway Congress Association.

M. de Vos, in his reply, expressed the appreciation of the delegates of the lavish

hospitality which they had received in Madrid, and of the excellent arrangements made by the Local Organising Committee. He enumerated some of the his-

torical and cultural links between his own country, Belgium, and Spain.

Talgo Trains

The technological achievements of Spain, he added, would need a future session of the Congress to deal with adequately. In particular he cited Señor Goycoechea, the creator of the articulated principle for railway rolling stock used in the Talgo trains running on the R.E.N.F.E. Talgo stock, he pointed out, was being displayed at the Brussels Exhibition. He also mentioned Señor Torres Quevedo, the inventor of an outstanding technical achievement, the "Chess Player," in the field of cybernetics.

M. de Vos concluded by emphasising the value of this session of the Congress. The combination of official meetings and personal contacts had furthered understanding between the countries and railway administrations participating. Devoting much time to theory, which could be compared to a complex mechanism, it provided in addition the spanner to remove some of the cogs, to obtain a better understanding of the working. Spain, in welcoming the Congress, had rendered outstanding service to the world-wide railway industry. M. de Vos then proposed the toast of Spain, coupled with that of the Head of the Spanish State, and of railwaymen of all grades throughout the world, including those who bore the responsibility of leadership.

Changes in U.I.C. Organisation and Procedure

Adaptation to present-day requirements

The General Assembly of the International Union of Railways (U.I.C.) recently decided on changes in organisation, methods and procedure with a view to fulfilling present-day requirements and taking cognisance of economic and other changes. Some of the more important decisions are summarised below.

Use of Languages

To emphasise the international character of the U.I.C., the use of the languages of all delegates is to be facilitated. No distinction will be made, in principle, between English, French, and German. Delegates will be permitted to speak in other languages, provided that they undertake to arrange for a translation to be made into one of the three languages mentioned. It is considered desirable to reduce the number of "consecutive translations" and to avoid, particularly, those which would involve three languages. It will be necessary, therefore, to make increasing use of "simultaneous" translations and to incur the considerable expenditure on interpreters' fees.

Chairman and Vice-Chairmen

The "chairman (railway) administration" is to be nominated one year before the beginning of its term of office. This arrangement will enable the official concerned to make himself familiar with existing problems and procedure, with the assistance of the General Secretariat. The number of seats held by the "vice-chairman administrations" will be eight.

When nominating the countries called upon to provide the members of the Board of Management, the General Assembly will take into consideration the importance of the part played by these administrations from an international

point of view. The Board will meet at least three times a year.

Committees

The Board of Management has been asked to adapt the arrangements for the meetings of the Committees and Sub-Committees to the increasing number of international problems, and also to the growing membership of the U.I.C. In particular, the annual meeting of all the committees, which is preceded by the joint, or separate, meetings of the sub-committees, is to be replaced by smaller and more specialised meetings, which will succeed each other during the year.

International Offices

Whenever necessary, the Board of Management is to be empowered to set up organisations of a purely operational nature, similar to those which already exist, such as the Europ Bureau concerned with the Europ wagon pool. Permanent control of such organisations will be vested in the Board of Management.

New Organisations

The creation of any new international organisations of a permanent nature will be subject to the effective control of the General Managers of the railways, exercised either through U.I.C., in the case of arrangements which are to be applied generally or through the railway administrations concerned when they are to be applied only to a restricted extent.

Meetings and Reports

The General Assembly has expressed the hope that, "without in any way neglecting the examination and the settlement of international problems which re-

quire ever closer attention," special care will be taken, when the work of all the international organisations is arranged, to reduce as much as possible the number and duration of meetings, the amount of travel, the volume of the reports, minutes, and so on.

Therefore most of the meetings are to be held at the offices of the U.I.C. in Paris. That city will be considered as "international territory," and not as a place to which delegates are invited (with corresponding obligations on the S.N.C.F. to act as a host administration).

"International Sections"

To ensure, within the member railway administrations themselves, a community of views and action on international questions, the General Assembly has recommended that there be created, on each of the principal railways, an "international section" composed of a varying number of railway officials, under the authority of a senior officer, whose duties would include the co-ordination of all international problems. The latter would continue to be dealt with by the appropriate departments.

The proposed "international sections" would work in close and permanent co-operation with the General Secretariat of the U.I.C.

Two New Committees

It decided to set up two new committees; *Seventh Committee*: Way & Works; and *Eighth Committee*: Legal Questions. These will be additional to the six Permanent Committees. There are also the *ad hoc* committees, including the Special Committee for Exchange of Documentation.

Rhodesia Railways Featured in Exhibit at Commonwealth Institute

Models of British-built locomotives and rolling stock inspected by Federal Minister of Transport & Works



Inspecting models at the Rhodesian Court, Commonwealth Institute: (left to right) Mr. M. K. Bradley, Sir Gilbert Rennie, Mr. W. H. Eastwood, Mr. L. B. Alexander, and Mr. H. Wilmot

Growth of Traffic in U.S.S.R.

The figures reproduced in the accompanying tables were received recently from the U.S.S.R.

Those in Table 2 reflect the concentration in recent years on electrification, and the building of many diesel locomotives of Class "TE.3" of 2,000 b.h.p. per unit and operated usually back-to-back in pairs, for traffic was getting beyond the capacity of the several thousands of 0-10-0 steam goods locomotives of the standard Class "E," with 17-ton axle load.

TABLE 1.—PROPORTIONS (PER CENT)

| Type of Transport | 1950 | 1955 |
|-------------------|------|------|
| Railway | 84.5 | 83.4 |
| River | 6.4 | 5.8 |
| Sea | 5.6 | 5.9 |
| Road | 2.8 | 3.7 |
| Pipelines | 0.7 | 1.2 |

TABLE 2.—GROWTH OF U.S.S.R. RAILWAY TRAFFIC

| | 1928 | 1940 | 1950 | 1955 |
|---|-------|---------|---------|---------|
| Operational mileage (× 1,000) | 48 | 66.5 | 73 | 75.5 |
| Freight tonnage (million tons) | 156.2 | 592.6 | 834.3 | 1,267.0 |
| Freight turnover (ton-miles × 10 ⁶) | 48.5 | 259 | 376 | 610 |
| No. of passengers (10 ⁶) | 291.1 | 1,343.5 | 1,163.8 | 1,641.4 |
| Passenger-miles (10 ⁶) | 15.3 | 61.2 | 55 | 88.5 |
| Freight by diesel and electric (per cent) | — | 2.2 | 5.4 | 14 |
| Commercial speed, freight trains (per cent) | 100 | 144 | 142.6 | 175.2 |
| Technical speed, freight trains (per cent) | 100 | 156.9 | 160.2 | 175.8 |
| Freight train weight (tons) | 817 | 1,301 | 1,430 | 1,758 |
| Steam loco, daily mileage | 10.58 | 7.37 | 7.49 | 6.23 |
| Electric " daily mileage | 86 | 159 | 152 | 173 |
| Diesel " daily mileage | — | 229 | 188 | 239 |
| | — | 223 | 187.5 | 226 |

The exhibit now in the re-arranged Court of the Federation of Rhodesia & Nyasaland in the Commonwealth Institute, South Kensington, London, S.W.7, illustrating the importance of communications in Rhodesia, was inspected recently by Mr. W. H. Eastwood, Minister of Transport & Works, Federation of Rhodesia & Nyasaland. He was accompanied by Sir Gilbert Rennie, High Commissioner for the Federation; Mr. O. S. Naylor, London Agent of the Rhodesia Railways; Mr. H. Wilmot, Chairman & Managing Director of Beyer Peacock & Co. Ltd.; Mr. L. B. Alexander, Special Director of the Metropolitan-Cammell Carriage & Wagon Co. Ltd., and Mr. M. K. Bradley, Director of the Commonwealth Institute. Editorial reference to the inspection and the luncheon party which preceded it, is made on page 444.

The luncheon at the Savoy Hotel was given by Beyer Peacock & Co. Ltd. and by the Metropolitan-Cammell Carriage & Wagon Co. Ltd. Mr. H. Wilmot and Mr. L. B. Alexander received the guests. They were supported by Mr. L. T. Dawes, Com-

mercial Director of Beyer Peacock & Co. Ltd., and Mr. E. J. Wilson, of the Metropolitan-Cammell Carriage & Wagon Co. Ltd.

The guests included Sir Henry Lintott, Deputy Under-Secretary of State, Commonwealth Relations Office; Mr. R. E. Rodham, of Messrs. Freeman Fox & Partners; Mr. M. K. Bradley; and Dr. H. Whitehead, of Harold Whitehead & Partners Ltd.

Mr. Wilmot, welcoming the Minister and the other guests, referred with admiration to the way in which the Rhodesia Railways had handled the unprecedented growth in traffic, which during the year ended March, 1958, reached a record tonnage. He assured the Minister that the railways could always rely upon the knowledge, experience, and great industrial resources which exist in Great Britain. He also mentioned the contribution of Metropolitan-Cammell and of his own company towards the achievement of the Rhodesia Railways.

Mr. Alexander referred to the importance of the Rhodesia Railways market to the carriage and wagon industry in the United Kingdom. This importance was well illustrated by the fact that the statistics of the Carriage & Wagon Building Association showed that over the last nine years the yearly average of exports to Rhodesia was no less than 11 per cent of the total for the whole industry.

Mr. Eastwood, replying, acknowledged the efforts that British industry, and particularly the two companies acting as hosts, had made to help build up their resources since the war, and hoped they would maintain their position in the future.

Sir Gilbert Rennie expressed his agreement with what the Minister had said, and paid tribute to the work of the companies in helping the development of Rhodesia.

Staff and Labour Matters

Labour Party Conference

At the closing session of the Labour Party Conference on October 3, Mr. S. F. Greene, General Secretary of the N.U.R., moved a resolution expressing concern at the further deterioration in the financial position of the British Transport Commission. He said that this was mainly due to Government policies and ministerial interference and he suggested that the review of transport policy by the Labour Party's standing committee should be speeded up to make possible its early implementation by the next Labour Government.

Mr. Greene referred to the accumulated deficit of the Transport Commission which he said was something like £160 million. The modernisation programme, the original estimated cost for which had been £1,200 million over a period of 10 years, had been extended to cover 15 years at an estimated cost of £1,500 million. The N.U.R. expected that by 1961-62 there would be something like £460 million in the suspense account. The whole position caused the union some concern.

Referring to the so-called "monopoly" status of the Commission, Mr. Greene said: "We have only got the monopoly of carrying everybody else's goods that nobody else wants to carry, and when we desire to increase fares to try to balance the books we have only got the monopoly that everybody else can protest about the increase." A case might be made out for not increasing fares in the national interest, but it must also be accepted that railwaymen could not be expected to carry the burden.

Mr. Greene contended that road and railway planning must be co-ordinated. The railways must be put in a position in which they could function efficiently and at the same time earn surplus revenue to make their proper contribution to the finances of the Transport Commission. It should be right to make a surplus but only so as to plough it back into the business to take advantage of technical progress and make possible the payment of reason-

able wages to employees. At the moment, the Commission could earn only what the Government allowed it to earn.

Mr. Greene referred to the proposed review of railway pay and the meetings which were taking place between representatives of the three railway unions and the Transport Commission with a view to setting up the independent body to undertake the inquiry. He stated that one of the great difficulties—even when they had no difficulty in establishing the fact that railwaymen were underpaid in comparison with other nationalised industries and private concerns—was that of where the money was to come from. They might find themselves in difficulty, although he was not saying that as a particular threat. He hoped that in the next Labour Government there would be legislation "to solve the phoney commercial side of the Commission" in trying to operate a railway so that they had to make a profit, but at the same time were not allowed to take the steps to bring the profit about.

The resolution was seconded by Mr. Frank Cousins, General Secretary of the Transport & General Workers' Union, who said that every time there was talk of making the Transport Commission's services self-supporting every trade unionist was encouraged by the local representatives to oppose any adjustment in fares. The way to make the Commission financially sound was to create an efficient service and to get rid of some of the out-moded methods of operation and to provide all modern techniques of handling both passengers and freight.

Mr. R. J. Gunter, President of the Transport Salaried Staffs' Association, who replied to the resolution on behalf of the National Executive, said that the background of the problem of British Railways was not only one of Government interference but one of a change in traffic habit. Labour was pledged to an expansionist economy and it was obvious that an efficient and up-to-date transport system was a vital necessity for this. Changes might be necessary to bring it up to date; traffic would have to go by the best way possible, which was not necessarily the

way it was going at the moment. One of the consequences of a thorough review of transport policy would be a statement that there would be cuts in the railway system, and these obviously would be much easier to accomplish if road passenger and freight services were under the same ownership and control, thereby enabling alternative provisions to be made. A subsidy for the railways was no solution if it merely solidified the present structure and made eventual technical change more difficult to achieve.

The resolution was accepted.

Engineering Workers' Pay Increase

Settlement now has been reached on the pay claim in the Outside Engineering Industry. Under an agreement between the Employers' Federation and the Confederation of Shipbuilding & Engineering Unions dated October 2, engineering workers now receive an increase of approximately 4 per cent.

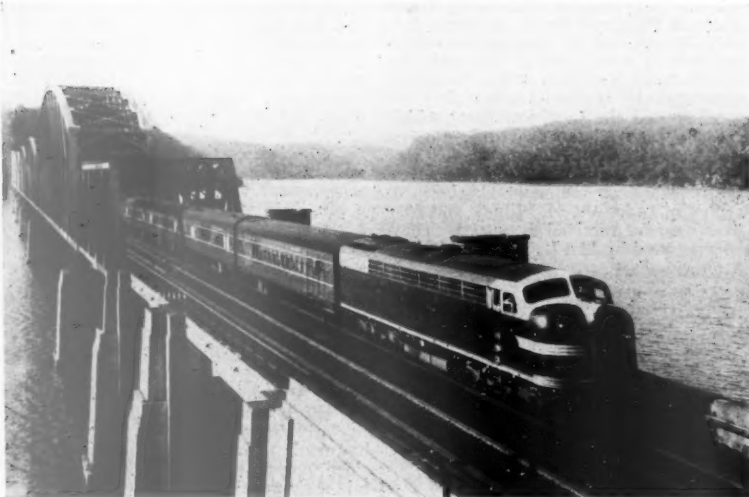
The increase has taken effect from October 6, and skilled men now receive another 7s. 4d. a week, semi-skilled workers 6s. 8d., and unskilled 6s. The cost to the industry is estimated at £50 million a year.

Negotiations now will proceed in connection with a comparable claim for shipbuilding workers and it is expected that a similar agreement will be concluded.

The increase of 4 per cent granted to engineering workers is in contrast to the 3 per cent increase granted to railway workshop staff with effect from June 30, 1958, under an agreement reached at the Railway Shopmen's National Council on July 21. This gave increases ranging from 5s. 6d. for skilled men to 4s. 6d. for unskilled men. The essential difference between the two settlements is that in the case of railway workshop staff, the 3 per cent increase was subject to the position of railway shopmen's wages being reviewed as may be necessary in the light of future developments, including the proposed review of wages in the railway industry. There is no such understanding so far as the outside engineering industry is concerned.

A claim for higher pay for holidays in the outside engineering industry, which was deferred at earlier talks with employers, is to be the subject of further discussions.

Main-Line Working in New South Wales



Photo]

[Guy Bakewell

Up Sydney-Newcastle express crossing the Hawkesbury River between Sydney and Gosford; this section of the line is in course of electrification

NEW ACCESS TO WESTERTON STATION, SCOTTISH REGION.—A pedestrian subway has been built under the Forth & Clyde Canal to give easy access to Westerton Station, on the Glasgow Queen Street Low Level to Milngavie and Helensburgh lines, for residents in the adjacent part of Knightswood.

WALKWAY TO CONNECT PLATFORMS AT LIVERPOOL STREET.—Work has been going on for some time on renewing the steelwork under the Great Eastern Hotel between platforms 9 and 10 at Liverpool Street Station, British Railways, Eastern Region. This work is making good progress and the next stage is to widen platform 9 at the hotel end and build a walkway to provide direct connection between platforms 9 and 10. When this work is complete, passengers traversing the station will no longer have to use the passageway under the hotel, and the new route will be shorter. It has been necessary to reduce the length of platform 9 for about two months. This involves some re-platforming of trains. In consequence the number of coaches in certain trains is reduced.

Contracts and Tenders

Diesel-electric locomotives for South African Railways

The South African Railway Administration has placed an order with the International General Electric Company, U.S.A., for 115 1,980-h.p. diesel-electric locomotives, at a cost of some £10,000,000, for operation in South West Africa. They will be suitable for use on both the main and branch lines.

The London Transport Executive has placed an order with Cravens Limited for 12 prototype motor cars for the Central Line. Each car will have one traction control equipment, controlling four under-floor-mounted motors. The stock will be delivered by the end of 1959.

Schindler Wagons S.A., Pratteln, Switzerland, has an order in hand for 40 bogie mail and parcels vans for the Mexican National Railways, but 20 of these are being built under sub-contract by the Swiss Car & Elevator Corporation at Schlieren.

The Nürnberg works of Maschinenfabrik Augsburg-Nürnberg (M.A.N.) has received an order from the Egyptian Republic Railways for two large bogie well wagons capable of carrying 120-ton loads.

The Indian Railway Board has placed a contract with Braithwaite & Co. (India) Ltd., Calcutta for 21 B.G. open military "O.M." type wagons, without wheels and axles, but complete with vacuum brakes; 21 B.G. open military "O.M." type wagons, without wheels, axles, and vacuum brake equipment; and 3 B.G. petrol truck wagons "TPR" type without wheels and axles, but complete with vacuum brake equipment.

The National Coal Board (East Midlands Division) has placed a contract with Metropolitan-Vickers Electrical Co. Ltd., for a flameproof battery locomotive for Markham Colliery, near Chesterfield.

The British Transport Commission, South Wales Docks, has placed the following contracts:—

General Electric Co. Ltd.: supply of electric light fittings for "A" and "B" sheds, Kings Dock, Swansea

G. Tate & Son Limited: construction of timber dolphin, North side of entrance channel, Port Talbot Docks.

British Railways, Eastern Region, has placed the following contracts:—

T. W. Ward Limited, London, W.C.2: supply and delivery of Fowler "Challenger 3," diesel crawler tractor, fitted with Bray hydraulically operated angle-doing equipment

Wellerman Bros. Ltd., Sheffield, 3: reconstruction of superstructures of overbridges Nos. 1451, 1462 and 1467 between Broxbourne and Bishops Stortford

Dorman Long (Bridge & Engineering) Limited, Luton, Beds.: reconstruction of superstructure of underline bridge No. 1367 over Graham Road between London Fields and Hackney Downs

Samuel Butler & Co. Ltd., Stanningley, nr. Leeds: repairs to long and short arm steelwork of train ferry terminal berth at Harwich

The Siemens & General Electric Railway Signal Co. Ltd., Wembley, Middlesex: alterations to impedance bond

track circuits and supply and installation of extra troughing between Shenfield and Southend Victoria, and alterations to impedance bond track circuits between Shenfield and Chelmsford

Wellerman Bros. Ltd., Sheffield, 3: cleaning down, mechanical pointing, and grouting of tunnel linings in Hackney, Clapton, Stoke Newington and Wood Street tunnels

The Churchill Machine Tool Co. Ltd., Broadheath, Manchester: supply and delivery of one Churchill model "AJW" locomotive axle journal re-grinding machine for Doncaster Locomotive Works

Charles R. Price, Doncaster: reconstruction of underline bridge No. 26 over River Smithe between Elton and Orston and Aslockton.

British Railways, North Eastern Region, has placed the following contracts:—

Sangwin Builders Limited, Hull: provision of new weigh sidings, Goole
J. R. Rutherford & Sons Limited, Newcastle: repairs to coaling plant, Darlington Bank Top Motive Power Depot.

London Transport has placed a contract with G. C. Horsburgh & Co. Ltd., London, W.6, for roof insulating linings in connection with the reorganisation of Chiswick Works and consequent rebuilding work. The value of the contract is some £14,400 and the work is due for completion by the end of February, 1960.

The Special Register Information Service, Export Services Branch, Board of Trade, has received calls for tenders as follows:—

From Pakistan:

11 broad-gauge, 5 ft. 6 in. main-line diesel locomotives complete, with additional cost for dynamic brakes for each locomotive, and adequate spare parts for maintenance and repairs to give three years trouble free working.

The issuing authority is the Government of Pakistan, Ministry of Communications (Railway Division). The tender No. is PRS-58/LOCO/3/TDR. Bids should be sent to the Director General (Railways), Railway Division, Ministry of Communications, Government of Pakistan, Karachi. The closing date is November 21, 1958. Local representation is essential. The Board of Trade reference is ESB/24221/58.

94 broad-gauge, 5 ft. 6 in. bogie covered goods wagons "BC" type

90 broad-gauge, 5 ft. 6 in., bogie high-sided open goods wagons "BOC" type. The issuing authority and address to which bids should be sent is the Joint Director (Procurement and Development), Railway Division, Ministry of Communications, Room No. 302, 2nd Floor, Secretariat Building, Adjacent Parliament House, Shahrah Kamal Ataturk, Karachi. The tender No. is P.R.S.-58/Wag/6/TDR. The closing date is November 17, 1958. Local representation is essential. The Board of Trade reference is ESB/24222/58.

From Korea:

6,000 pairs of rail angle bars, open hearth carbon steel, rolled and punched for 75 lb. per yd. ASCE rail

23,000 track bolts, heat treated carbon steel, rolled threads complete with car-

bon steel square nuts

23,000 washers, coil spring, for use with $\frac{7}{8}$ in. rolled thread track bolts

112,000 tie plates, high carbon steel
44,000 rail anchors for use with 75 lb. per yd. ASCE rail

structural steel angle for bridges, non-copper, for riveted structures in following sizes:

100 6 in. by 6 in. by $\frac{3}{4}$ in. by 40 ft.
66 6 in. by 6 in. by $\frac{3}{4}$ in. by 41 ft.

structural steel plate for bridges, non-copper, for riveted structures in following sizes:

24 15 in. by 27 ft. 1 in. by $\frac{3}{4}$ in.

72 85 in. by 22 ft. by $\frac{1}{2}$ in.

36 99 in. by 36 ft. 1 in. by $\frac{3}{8}$ in.

216 17 in. by 46 ft. by $\frac{3}{4}$ in.

The issuing authority and address to which bids should be sent is the Office of Supply, Government of the Republic of Korea, Seoul, Korea. This purchase will be financed by the International Co-operation Administration (I.C.A.), the agency through which the United States Government gives economic and technical assistance to other countries. The tender No. is 89-33-239-6-80175. The closing date is October 31, 1958. The Board of Trade reference is ESB/24044/58/I.C.A.

A large quantity of treated timber sleepers in various lengths.

The issuing authority and address to which bids should be sent is the Office of Supply, Government of the Republic of Korea, Seoul, Korea. The tender No. is 89-33-239-6-80175. This purchase will be financed by the International Co-operation Administration (I.C.A.), the agency through which the United States Government gives economic and technical assistance to other countries. The closing date is October 24, 1958. The Board of Trade reference is ESB/24043/58/I.C.A.

From India:

14 items of signalling equipment including point indicator lamps and discs, signal lamps, lenses, convex roundels and roundel rings, and signal brackets and fittings.

The issuing authority is the Director General of Supplies & Disposals. The tender No. is WP-2/24088-1/J.C. Bids should be sent to The Director General of Supplies & Disposals, Shahjahan Road, New Delhi. The closing date is October 30, 1958. The Board of Trade reference is ESB/24067/58.

From Uruguay:

1,750 silicon-manganese steel springs for wagons of 30-40 ton capacity.

The issuing authority is the Administración de Ferrocarriles del Estado. The tender No. is 420/58. A guarantee of Ur\$1,500 is required for maintenance of offers. The closing date is November 10, 1958. Local representation is essential. The Board of Trade reference is ESB/24095/58.

Further details regarding the above tenders, together with photo-copies of tender documents, can be obtained from the Branch (Lacon House, Theobalds Road, W.C.1.).

The Mozambique Railways has been authorised by the Provincial Government to order rolling stock to the value of U.S. \$1,300,000. The greater part of this sum will be used for the purchase of 40 40-ton open mineral wagons.

Notes and News

Journal Stops for Wagon-type Plain Bearings.—We are indebted to the St. Louis-San Francisco Railway Company for information used in compiling the article on pages 425-6 of our October 3 issue, and for the illustrations reproduced.

Reduction in Machine Tool Orders.—It was stated at a conference, in Coventry last week, of shop stewards and trade union officials in the machine tool industry that orders for the machine tool industry had fallen by £24 million in the last 12 months, causing 6,000 workers to be laid off and widespread short-time working.

North Eastern Region Winter Services.—A correction is needed to the review in the September 26 issue of the Eastern and North Eastern Region winter services. The N.E.R. local service withdrawn on Sundays is between Sunderland and South Shields, and not Newcastle and South Shields. It was also stated that the 10.5 a.m. semi-fast from York to Edinburgh had been withdrawn except on Saturdays, whereas the withdrawal is between Newcastle and Edinburgh only. This misstatement arose from a somewhat misleading note in the train column of the 10.5 a.m. from York (p. 81 of the timetable book), which reads "Through train (S.O.) York to Edinburgh."

Presentation to Sir J. Landale Train.—A water-colour of the Western Highlands was presented by the Civil Engineering and the Signal & Telecommunications Committees of British Railways Central Staff to Sir J. Landale Train on the occasion of his retirement as Member of the British Transport Commission. Mr. J. Taylor Thompson, Chief Civil Engineer of the London Midland Region, made the presentation, with Mr. J. H. Fraser, Chief Signal Engineering Officer, B.T.C. Mr. A. K. Terris, Chief Civil Engineer, Eastern Region, and Mr. A. W. Woodbridge, Signal Engineer, Western Region, also spoke. The presentation took place at

the Great Western Royal Hotel, Paddington. The accompanying illustration shows Sir J. Landale Train, Mr. Taylor Thompson, Mr. Fraser and other members of the two committees.

Record Traffic by Lyons-Boulogne Car/Sleeper Express.—A record number of 103 motor-cars were conveyed by the Lyons-Boulogne car/sleeper express on September 13. Travelling in the same train were 323 motorists, 237 of whom were accommodated in French National Railways *couchette* carriages, and 86 in sleeping cars.

Last Rail Laid on the Chilungula-Masasi Railway, E.A.R. & H.—The last rail of the 24-mile extension of the Southern Province Line, East African Railways & Harbours, from Chilungula to Masasi was laid at Masasi Station on September 26. The new line will be opened to traffic under construction conditions on October 14, and on November 1, will be formally opened under normal operating conditions.

Acquisition of Rockwell Engineers Limited Capital.—The Coventry Gauge & Tool Co. Ltd. has announced that its offer to acquire the capital of Rockwell Engineers Limited (five 10s. Coventry ordinary for four Rockwell 5s. ordinary shares) has been accepted by holders of over 90 per cent of the shares. Subject to permission to deal in the new shares, the offer will become unconditional and binding. It remains open until January 5.

Pianoforte Recital by Miss Mavis Elmitt.—On Saturday evening, October 4, at the Wigmore Hall, Wigmore Street, London, W.1, Miss Mavis Elmitt, the very talented daughter of Mr. George Elmitt, leader of the London Midland Region (London) Orchestra, gave a pianoforte recital before a large and very appreciative audience. It was refreshing to find that Miss Elmitt had chosen a programme well suited to her accomplishments, which are considerable. The programme was varied and we par-

ticularly enjoyed Beethoven's A major sonata and Schumann's "Papillons." Miss Elmitt possesses a charming and unspoilt personality.

Down "Flying Scotsman" Diesel Hauled.—The Eastern Region of British Railways introduced regular diesel working on the down "Flying Scotsman" last Monday between Kings Cross and Newcastle. The locomotives used for the service are Type "4" 2,000-h.p. diesel-electric units built by the English Electric Co. Ltd.

English Electric and Dorman Agreement on Diesel Engines.—As each company's diesel engines are complementary and jointly represent a power range of 20 h.p. upwards, the English Electric Co. Ltd. and W. H. Dorman Limited, of Stafford, have entered into an agreement whereby each will promote the sale of the other's products.

Wagon-Bearing Unit for British Railways.—The scope of the application of the wagon-bearing unit developed by British Timken Limited and used in conjunction with a horseshoe adaptor on British Railways four-wheel wagons with laminated spring suspension and axle guards, has been extended. The unit can now be used with British Railways standard 5-ft. 6-in. goods wagon bogie, and with bogies equipped with roller bearings.

Simplified Charging Arrangements for Railway Traffic at Port of Liverpool.—New charging arrangements at the Port of Liverpool designed to simplify traders' accounting and help in the movement of imports and exports, were introduced on October 1 by British Railways, London Midland Region. There is now only one inclusive bill covering the services of all the organisations involved. This is rendered to the trader by British Railways, which themselves settle the accounts for the Dock Board, the steamship companies, or the master porters. A further advantage is that the same rate now applies whether delivery to, or collection from,



Sir J. Landale Train, Mr. J. H. Fraser (centre), and Mr. J. Taylor Thompson and other members of the Civil Engineering and Signal & Telecommunications Committees of British Railways Central Staff at the presentation to Sir Landale Train on his retirement

the quays is carried out by railway wagon or British Railways road vehicle. Hitherto traders paid three separate charges for freight traffic through the port: one to British Railways for main-line rail haulage; one to the Mersey Docks & Harbour Board for rail haulage in the docks; and one to the steamship companies or the master porters for unloading from or loading into railway wagons.

Beclawat Acquisition.—Beckett, Laycock & Watkinson Limited has acquired the Kingsbury, Middlesex, business of Elliott (Windscreens) Limited. This will enable windscreens to be added to the range of Beclawat products. Mr. W. H. Skilton remains with Elliott (Windscreens) Limited as Branch Manager.

Excursions for Stay-at-Home Holiday-makers.—Nearly 4,000 people who did not sleep away during the town holidays in the Birmingham, Nottingham, Derby, Leicester, and Luton areas took advantage of the special excursion trains run by British Railways, London Midland Region. The trains included cafeteria cars. They were run to a different resort after breakfast each day of the week and returned each evening.

Increased Travel to Ireland via Holyhead and Heysham.—Summer carryings to Ireland by British Railways steamer services via Holyhead/Dun Laoghaire and Heysham/Belfast were higher than in 1957. Nearly 240,000 passengers went via Holyhead and 118,000 via Heysham, compared with 227,000 and 116,000 respectively during a corresponding period of last year. Many additional sailings and use of sailing tickets during peak days of the summer are stated to have enabled the London Midland Region to deal with the traffic without undue difficulty.

Christmas Sailings on Anglo-Irish Services.—Extra sailings to and from Ireland for Christmas by all routes are announced by British Railways and by the shipping companies concerned, but sailing tickets must be obtained in advance for these and for all regular services on some dates during the Christmas period. An appeal is made to passengers to apply for sailing tickets for the return journey at the time of application for the outward journey ticket. There will be no sailings on Christmas Day, except on routes between Scotland and Ireland. The 10s. deposit scheme is stated to have been so successful during the peak summer period that it is in the interests of both the bona fide passenger and the carriers that it should be re-introduced during the Christmas and Easter period.

London Midland Region Sunday Services.—While the day trains between Euston, Liverpool and Manchester on Sundays are virtually unaltered in their timings, with the introduction of the winter timetable there has been a drastic deceleration of the evening expresses. The former 5.20 p.m. from Euston to Liverpool starts at 5.10 p.m., and reaches Lime Street at 10.10 instead of 9.41 p.m., while the 5.40 p.m. to Manchester starts at 5.30 and is into London Road at 10.34 instead of 10.8 p.m., decelerations of 39 and 36 min. respectively. In the reverse direction the 3.55 p.m. from Manchester reaches Euston at 9.23 p.m., 48 min. later, and the 5.40 p.m. at 10.35 p.m., 33 min. later, while the 5.15 p.m. up is diverted from Stoke to run via Uttoxeter and Stenson and Trent Junctions to St. Pancras, reached at 10.10 p.m., 58 min. later than its former

Euston arrival; the last-mentioned no longer carries a restaurant car. From Liverpool the 4.5 p.m. starts 5 min. earlier and is 39 min. later into Euston, at 8.49 p.m., while the 5.20 p.m. also starting 5 min. earlier, is not due till 10.10 p.m., 38 min. later.

Tube Investments Limited Dividend.—The directors of Tube Investments Limited have decided to recommend a final dividend on the ordinary stock of 10 per cent, which, with the interim dividend of 7½ per cent, makes a total for the year ended July 31, 1958, of 17½ per cent. The net profit of the group for the year, subject to final audit, is £6,003,438 (£5,510,909).

Rhodesia Railways May Work Bulawayo-Vryburg Line.—The General Manager of Rhodesia Railways, Mr. J. W. S. Pegrum, is reported to be discussing the proposed working by his system of the 580-mile section between Bulawayo and Vryburg, at present operated by South African Railways.

Amalgamation of Associated Electrical Industries Limited with W. T. Henley's Telegraph Works Co. Ltd.—The Boards of Associated Electrical Industries Limited and W. T. Henley's Telegraph Works Co. Ltd. have concluded negotiations to amalgamate the cable and other manufacturing resources of the two companies. Associated Electrical Industries Limited has agreed to purchase the whole of the issued capital of W. T. Henley's Telegraph Works Co. Ltd.

New British Oxygen Factory in Derby.—A factory for the manufacture of oxygen and dissolved acetylene has been opened by British Oxygen Gases Limited on the Raynesway Industrial Estate at Derby. The company now has 46 oxygen producing and compressing centres and 20 for dissolved acetylene in operation throughout the country. The new factory is situated on an 11½-acre site, and a vehicle repair shop, office block, and equipment stores are provided. The architects and contractors were British Oxygen Engineering Limited, of Edmonton, London.

New Goods Offices at Lincoln.—Work on the new goods shed at Lincoln, Eastern Region, is making good progress and a start is soon to be made on the building of a new office block. The latter will be a single-storey brickwork building with a flat timber roof. A notable feature will be the generous glazing, consisting of timber windows beneath which there will be, on the outside, decorative wooden panels. The interior will be finished in painted plaster and the flooring will be of thermoplastic tiles. New furniture will be provided throughout. The building was designed by Mr. H. H. Powell, Architect, Eastern Region. The contractors are William Moss & Sons Ltd., Queens Road, Loughborough. The work is being carried out under the direction of Mr. A. K. Terris, Chief Civil Engineer of the Region.

Agency for Diesel Engines and Locomotive Components in South Australia.—Mr. D. J. S. Thomas, General Manager of B.T.M. Agencies (Pty.) Ltd., Churchill Road, Kilburn, Adelaide, South Australia, has told the United Kingdom Trade Commissioner at Melbourne that his firm is prepared to represent United Kingdom manufacturers of industrial engines, other than two-stroke; components for diesel and diesel-electric locomotives; and parts or equipment used in nuclear reactors.

Manufacturers interested in this agency enquiry should write direct to Mr. Thomas and notify the United Kingdom Trade Commissioner, Australia & New Zealand Bank Chambers, 224, Queen Street, Melbourne, C.1, that they have done so. Further details can be obtained from the Special Register Information Service, Export Services Branch, Board of Trade, quoting reference No. ESB/23448/58.

Causeway Proposed to Prince Edward Island.—Construction again has been proposed of a causeway to carry railway (Canadian National) and road over the Northumberland Strait between the mainland and Prince Edward Island.

Road Casualties in August.—Road accidents in August caused 539 deaths, eight more than in August, 1957. The number seriously injured was 6,950, an increase of 369; and the number slightly injured, 22,553, an increase of 1,157. Traffic on main roads, according to a Road Research Laboratory estimate, was 10 per cent more than in August, 1957.

Branston & Heighington Station to Close.—British Railways, Eastern Region, has announced that from November 3, the passenger train service will be withdrawn from Branston & Heighington Station, on the Sleaford-Lincoln line. Passengers will be catered for at Lincoln Central and by buses operating in the area. Parcels traffic will be dealt with at Lincoln Central, whence C. & D. services operate. Facilities will be retained at Branston & Heighington for acceptance of parcels for despatch and for collection of "to be called for" parcels.

Traffic by Kings Cross-Sheffield Pullman Expresses.—The "Master Cutler" and the other pair of all-Pullman expresses which were introduced by British Railways, Eastern Region, between Kings Cross and Sheffield Victoria, carried 1,900 passengers in the week ended October 3. The Pullman set makes two return trips daily, Mondays to Fridays. Best loadings are reported to be in the "Master Cutler." With limited accommodation, passengers had to be turned away on some days. On October 3, the up "Master Cutler" covered the 161 miles from Sheffield, with a stop at Retford, in 158 min., arriving 7 min. early.

U.T.A. Winter Services.—The winter timetable of the Ulster Transport Authority shows a considerable acceleration of the Sunday train service between Belfast and Londonderry, due to the substitution of diesel for steam-hauled trains. The 10 a.m. from Belfast starts at 9.30 a.m., and is speeded up by 40 min. to reach Londonderry at 11.30 a.m.; the 4.45 p.m. to Portrush starts at 5.20 p.m. and is accelerated 16 min. to arrive at 6.50 p.m.; and the 7.20 p.m., leaving Belfast 70 min. later, is into Londonderry at 10.30 p.m., 26 min. later only. In the reverse direction the 10 a.m. from Londonderry starts 2 hr. later, and is accelerated 47 min. to reach Belfast at 1.55 p.m., while the 6.15 p.m. is 43 min. earlier into Belfast, arriving at 8.5 p.m.

One Hundred Firms Represented on Special Diesel Trip.—Representatives of about 100 different industrial undertakings in districts served by the Great Eastern Line were taken in a special two-car diesel train at Liverpool Street on October 1 on a 3-hr. trip through Essex and Hertfordshire as guests of the Eastern Region of British Railways. Organised by Mr. H. W. Few, Traffic Manager, Liverpool Street, the trip

was designed to encourage more firms to make their annual outing by rail. The train was fitted with loudspeakers and a roving microphone so that guests could be told of the facilities British Railways offer for large parties. It was also pointed out that for many firms' outings diesel train is the ideal way to travel. The train left Liverpool Street at 1.33 p.m., made a circular tour and returned at 4.30.

Railway Stock Market

Encouraged by the latest rise in the gold and dollar reserve figures, which have increased confidence that the £ will remain strong, stock markets renewed their advance. Lower bank rate hopes persisted and played a big part in the further rise in British Funds. Many leading industrialists scored fresh gains on the assumption that company profits will resume an upward trend next year and that world trade will expand.

Among railway securities, Antofagasta ordinary was again 14, and the preference stock at 30 was also the same as a week ago. Canadian Pacific have eased from \$55 a week ago to \$54½, but the preference stock moved up from 54½ to 55 and the debentures rallied from 66½ to 67½, because, being sterling stocks, they are influenced not by Wall Street, but by the trend in British Funds.

Mexican Central "A" bearer debentures at 71 were little changed compared with a week ago. Brazil Railway gold bonds were 5½, and United of Havana second income stock again 6½. San Paulo Railway 3s. units have again changed hands around 2s.

West of India Portuguese capital stock has been dealt in up to 79, and Nyasaland Railways shares up to 12s. 9d., at which they yield 9½ per cent on the basis of last year's 6 per cent dividend. Costa Rica ordinary stock showed business around 16.

The shares of locomotive builders and engineers have been more active, helped by further consideration of the favourable impression created by recently-issued results and maintained dividends, which tended to draw attention to the fact that at current prices yields are attractive and compare favourably with those on many other groups of shares. Charles Roberts 5s. shares, for example, yield over 7½ per cent, although since a week ago they have moved in price from 9s. 10½d. to 10s. 3d. Gloucester Wagon 10s. shares improved further 16s. 9d. to 17s. 3d. at which the yield is 8½ per cent on the basis of the maintained 15 per cent dividend.

Beyer Peacock 5s. shares rose from 8s. 4½d. a week ago to 8s. 10½d., their best this year. G. D. Peters strengthened afresh to 26s. and in other directions, Westinghouse Brake were up to 41s. 9d., compared with 40s. 6d. a week ago.

Wagon Repairs 5s. shares showed firmness at 10s. 4½d., while Birmingham Wagon remained at 17s. 4½d. and North British Locomotive have eased from 12s. 6d. to 12s. 3d. A good feature was provided by Tube Investments with an advance from 62s. 3d. to 69s. 4½d. in response to the increased profits and the raising of the dividend from 15 per cent. to 17½ per cent, which came as a pleasant surprise; earnings on the ordinary capital were nearly 70 per cent. Crossley Bros. 5s. deferred units held steady at 5s. 9d. xd, at which there is a yield of 10½ per cent on the maintained 12 per cent dividend.

Associated Electrical shares have lost a few pence at 52s. 9d. English Electric strengthened from 58s. 9d. to 59s. and

General Electric gained 9d. at 38s. 3d., while Crompton Parkinson 10s. shares rose further from 11s. 10½d. a week ago to 12s. 3d., their best this year. Pressed Steel 5s. shares strengthened afresh to 19s. and Dowty Group 10s. shares at 38s. 9d. were within 3d. of the level a week ago, while elsewhere, Babcock & Wilcox advanced to 55s. T. W. Ward rose from 83s. 6d. to 84s. 6d., awaiting the results.

Forthcoming Meetings

October 13 (Mon.).—Institute of Transport, at the Jarvis Hall, 66, Portland Place, W.1, at 5.45 for 6.15 p.m. Presidential address.

October 15 (Wed.).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 1 Birdcage Walk London, S.W.1, at 5.30 p.m. Paper on "The mechanics of the train in the service of railway operation," by Mr. S. O. Ell.

October 15 (Wed.).—Institution of Railway Signal Engineers, York Section, at the Signalling School, Toft Green, York, at 5.30 p.m. Paper on "Level crossing technique," by Mr. D. Peverley.

October 20 (Mon.).—Permanent Way Institution, London Section, at the headquarters of the British Transport Commission, 222, Marylebone Road, London, N.W.1, at 6.30 p.m. Paper (illustrated) "Temple Mills Marshalling Yard," by Mr. E. G. Newens.

October 20 (Mon.).—Permanent Way Institution, Merseyside Branch, at Woodside Hotel, Birkenhead, at 7.30 p.m. Paper on "The railways and traffic of Lever Brothers, Port Sunlight," by Mr. F. Blair.

October 20 (Mon.).—Permanent Way Institution, West Midlands Branch, at 64, Holyhead Road, Coventry, at 7.30 p.m. Illustrated talk by Mr. J. B. C. McCann "Further railway travel in colour, with special reference to the 1958 R.C.T.S. tour in Austria."

October 20 (Mon.).—Institute of Transport, Sussex Group, at the Arlington Hotel, Brighton, at 6.30 p.m. Paper on "Transport, electricity and the future," by Mr. C. J. George, Commercial & Development Department, Electricity Council.

October 21 (Tue.).—Institute of Transport, Humberside Section, at Samman House, Bowlalley Lane, Hull, at 7.30 p.m. Paper on "Training for transport management," by Mr. D. Stewart.

October 23 (Thu.).—Model Railway Club, at Caxton Hall, Westminster, S.W.1, at 7.45 p.m., "Swiss railway photos": Lecture by Mr. P. J. Kelley.

October 23 (Thu.).—Institution of Railway Signal Engineers, London Section, at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 6 p.m. Paper on "Automatic junction working and route setting by programme," by Mr. R. Dell.

October 25 (Sat.) to October 26 (Sun.).—British Railways (Southern Region) Lecture & Debating Society. Visit to York and district.

October 25 (Sat.).—Institution of Railway Signal Engineers, Bristol Section. Visit to the works of the Westinghouse Brake & Signal Co. Ltd., Chippenham.

OFFICIAL NOTICES

THE NIGERIAN RAILWAY CORPORATION

invites applications for the following post:—

BRIDGE DRAUGHTSMAN

Duties: The officer will be required to design both steel and R.C. bridges, bridge substructures and foundations. His duties will also include design calculations, examination and approval of drawings and technical correspondence.

Qualifications: Candidates must have the Higher National Certificate or similar qualification and must have at least five years' experience in the above duties. **Salary:** In scale £1,450 by £50 to £1,750 per annum (inclusive of Overseas Pay). Starting salary according to qualifications and experience. Appointments may be on pensionable terms or on contract with a gratuity payable on completion of contract at the rate of £24 3s. 4d. to £29 3s. 4d. for each completed month of service.

Tours: 15 months in Nigeria, followed by 15 weeks' leave on full pay.

Quarters: Partly furnished quarters are provided at low rental.

Allowances: There are attractive family, travelling, transport and other allowances.

Send postcard before 28th October, 1958, mentioning the post and this paper, for further particulars and application form, to:—

The London Representative,
Nigerian Railway Corporation,
Nigeria House, 9, Northumberland Avenue, London, W.C.2.

THE NIGERIAN RAILWAY CORPORATION

invites applications for the following post:

BRIDGE INSPECTOR

Duties: The officer will be responsible for the erection of bridges, riveting, welding, steelwork fabrication, painting, excavation and timbering. He will also be required to inspect, organize repairs and maintain bridges.

Qualifications: Candidates must have had at least 5 years' practical experience with a Railway or a reputable firm of Engineering Contractors. Experience in the construction of reinforced concrete works would be an advantage. They must be proficient in the use of poles, derricks, cranes, piling equipment, jacks and various tackles.

Salary: In scale £1,000 by £50 per annum to £1,500 (inclusive of Overseas Pay) per annum. Starting salary according to qualifications and experience. Appointments may be on pensionable terms or on contract with a gratuity payable on completion of contract at the rate of £16 13s. 4d. to £25 0s. 0d. for each completed month of service.

Tours: 15 months in Nigeria followed by 15 weeks' leave on full pay.

Quarters: Partly furnished quarters are provided at low rental.

Allowances: There are attractive family, travelling, transport and other allowances.

Send postcard before 31st October, 1958, mentioning the post and this paper for further particulars and application form, to:—

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Nigerian Railway Corporation,
Nigeria House, 9, Northumberland Avenue, London, W.C.2.

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2. Maintaining contact with permanent way engineers in British Railways and Overseas Railways and those engaged in research and development.
3. Advising on the design and development of steel permanent way equipment.
4. Writing articles for publication in the Technical Press.

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